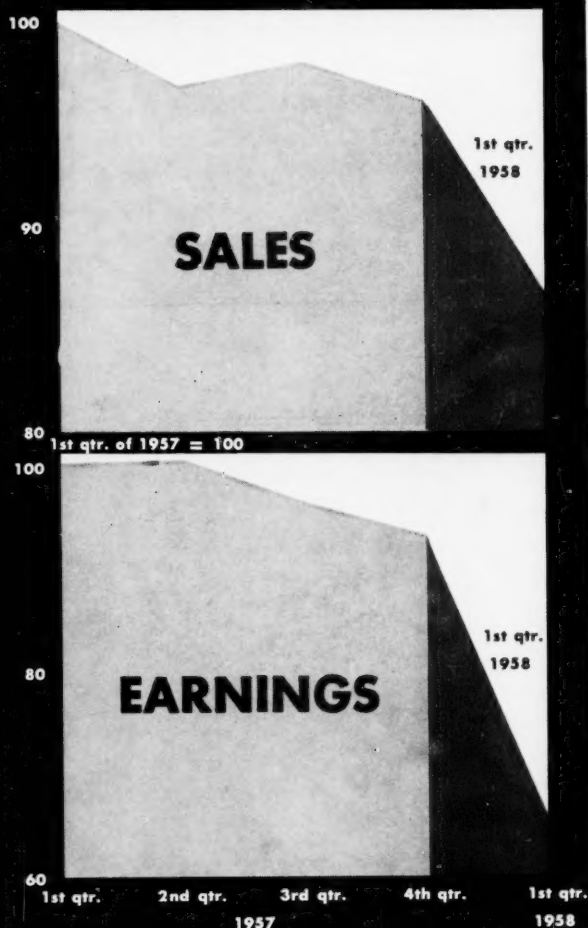


Chemical Week

May 3, 1958

Indexed data from 14 selected companies



◀ First-quarter earnings register sharp drops—but signs of a pickup are in sight . . . p. 23

CIL's new enamel: How big a threat to alkyd and vitreous appliance finishes? . . . p. 41

Equipment makers and users gain from novel in-plant maintenance lessons . . . p. 49

Soda ash production slips again, but producers look to record year in 1960 . . . p. 71

Foreign trade fairs: Can they help your company sell more chemicals overseas? . . . p. 77

ANN ARBOR MICH
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from men who produce organic chemicals . . .

**a new standard
for technical
assistance**

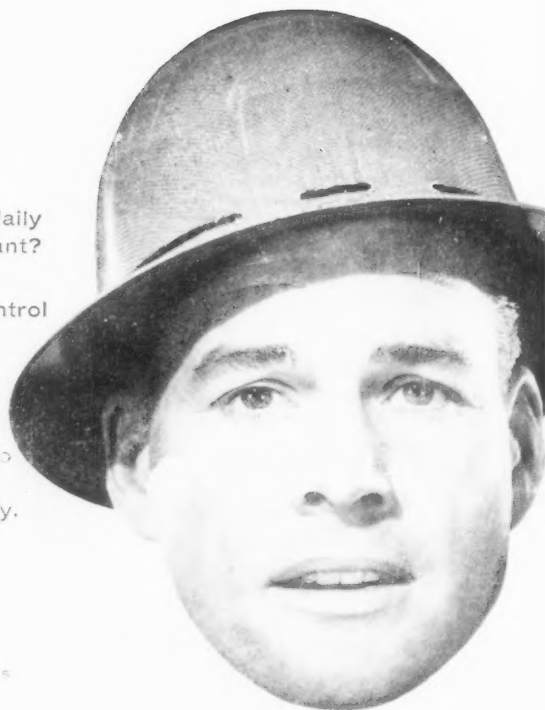
Who is better qualified to give you practical technical assistance on organic chemical problems than the men responsible for the daily operation of a modern organic chemicals plant?

To give you the kind of service you need, operating and design engineers, process control chemists and material handling specialists from our Doe Run Plant are available now to assist your production men with problems common to organic chemicals.

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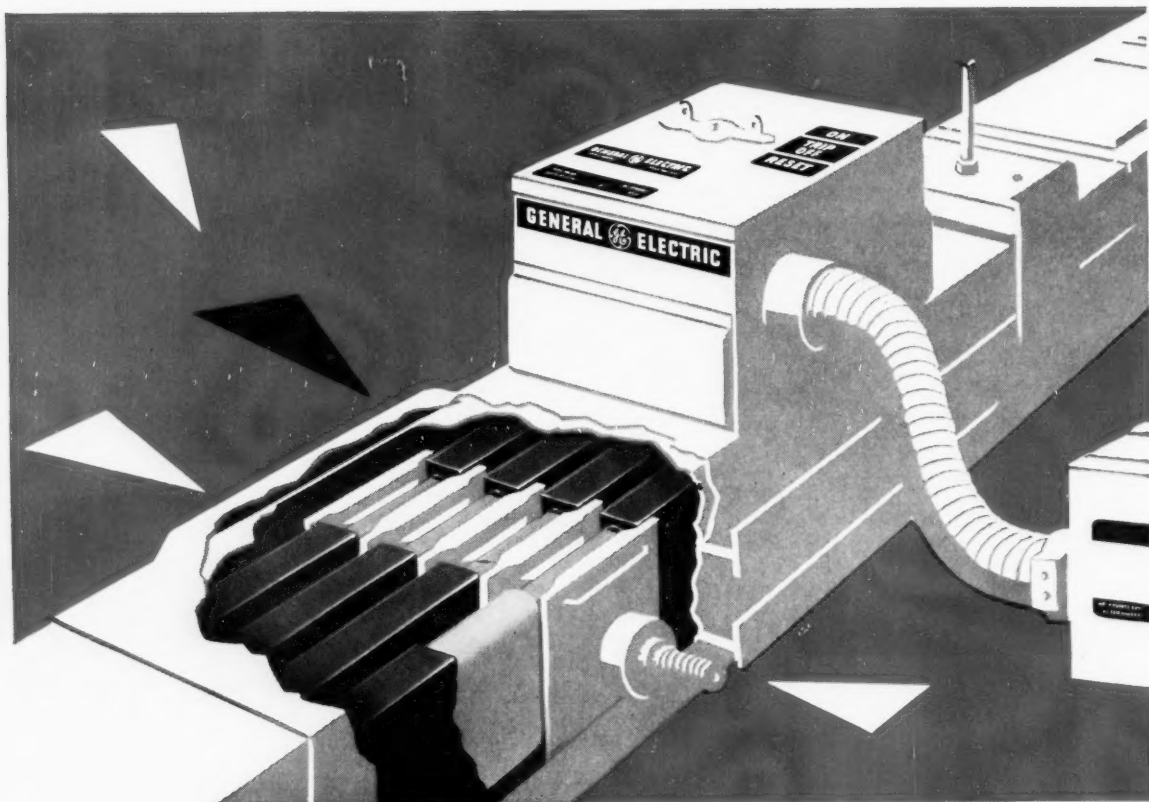
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Industrial and Agricultural Dept.
Drawer CW-801 (Phone Diamond 4-1451, Ext. 474)
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Norfolk and Western RAILWAY



When Enjay Butyl is used as continuous insulation of tubular aluminum conductors, traveling arcs are virtually eliminated, plug outlets are essentially dead-front.

ENJAY BUTYL

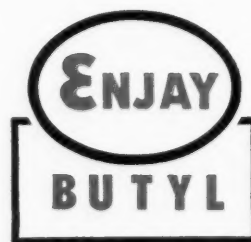
helps keep costs low in new Aluminum Busway!

Enjay Butyl is extruded over the full length of the conductors used in General Electric's new Type DE Busway, the first busway designed specifically for aluminum. This new busway incorporates all 22 features that engineers consider important in busway design, yet it is up to 30% smaller and 50% lighter than other busways of comparable rating.

Enjay Butyl rubber is ideal for use as continuous insulation of tubular conductors because of its inherent resistance to ozone

and to heat aging. Add Butyl's excellent electrical properties, its vulcanizability and the fact that it is the *lowest cost* rubber on the market—and you'll understand why it was chosen above all other rubbers to do this job.

Every day manufacturers are discovering new ways to use economical Butyl. Find out how Enjay Butyl rubber can cut production costs for you. For further information and expert technical assistance, contact the Enjay Company.



Enjay Butyl is the greatest rubber value in the world. It's the super-durable rubber with *outstanding* resistance to aging • abrasion • tear • chipping • cracking • ozone and corona • chemicals • gases • heat • cold • sunlight • moisture.



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TOP OF THE WEEK

MAY 3, 1958

- ▶ **Roundup of first-quarter earnings** spotlights slipping sales, profits. But signs of a pickup are evident **p. 23**
- ▶ **CIL's new enamel** — how strong a threat to alkyd and vitreous enamel finishes? **p. 41**
- ▶ **Lessons in lengthening equipment life** are finding an avid audience among production men. New idea: Rockwell Mfg.'s valve courses at customers' plants **p. 49**
- ▶ **International meeting ground for engineers**—Montreal conference draws Russian, other European technologists ... **p. 59**

12 OPINION

17 BUSINESS NEWSLETTER

- 23 Sharp drop in first-quarter earnings—but chemical management sees signs of upward trend for sales and profits later this year.
- 24 How process industries are weathering the economic storm: final '57 figures show recession hurt chemical business relatively little last year.
- 26 Congressional spotlight again turns to nickel project in Cuba; Freeport denies that ore royalty rates were set too high.
- 26 Who's who and what's what in complex structure of Syntex companies? In new stock offering, management explains corporate interrelationships—past, present and planned.
- 26 Bigger in chemicals than ever before and still increasing its stake in this field, Grace tells '57 results: chemical sales up 6.4%, to \$167 million.

29 WASHINGTON NEWSLETTER

33 ADMINISTRATION

Direct aid to education on high school level—close-up of Olin Mathieson's pioneering effort.

- 36 Indiana Standard's labor puzzler: unions vie to bargain on the same jobs.

41 SPECIALTIES

CIL's new enamel for appliances challenges alkyd and vitreous enamels.

49 PRODUCTION

Rockwell Mfg. Co.'s valve-maintenance courses at customers' plants—direct approach to educating equipment users.

- 50 Detection of radiant heat and process control are combined in a new system offered by Velotron, Inc.

55 TECHNOLOGY NEWSLETTER

59 ENGINEERING

Russian scientists and European chemical leaders meet with U.S. and Canadian engineers at international AIChE-CIC conference.

67 MARKET NEWSLETTER

71 MARKETS

Soda ash output backslides for the third consecutive year, will hover at 5 million tons in '58. But producers are confident that '60's output will top '56's 5.65-million-ton peak output.

77 SALES

Foreign trade fairs: can they help bolster lagging chemical exports?

Vol. 82
No. 18

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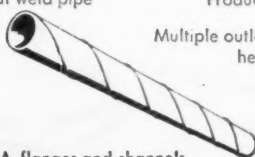
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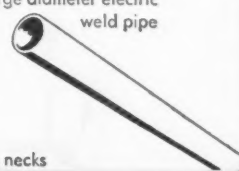
Spiral weld pipe



Production forgings
Multiple outlet
headers



Large diameter electric
weld pipe



T.E.M.A. flanges and channels

Welding necks



1 Photomicrographs show the formation of crystalline phthalic anhydride from the liquid state—key to Barrett purity measurements. First crystals appear as liquid is cooled to freezing point.



2 Crystals grow rapidly from "root" of first formation. Temperature variations are carefully plotted during this phase change to determine freezing point of sample.

A New Standard of Purity

BARRETT RESEARCH *has established the purity of commercial Barrett Phthalic Anhydride at 99.7 mole per cent. This high assured purity and Barrett's definitive method of measuring it, open a new age of confidence for every PA user.*

Forget everything you've heard before about phthalic purity. For Barrett has set a new standard of purity for phthalic anhydride, a standard which carries tremendous significance for every phthalic user.

The Barrett laboratories have created this standard using a technique of physical chemistry described in the picture sequence above. It is a highly accurate, definitive method for measuring phthalic purity. And it has been used to establish the purity of Barrett Phthalic Anhydride (commercial specifications) at 99.7 mole per cent.

This is an impressive degree of assured purity when you compare it with phthalic purity measured by titration. Acid impurities are included in purity determinations made by titration, giving you no firm limit on total

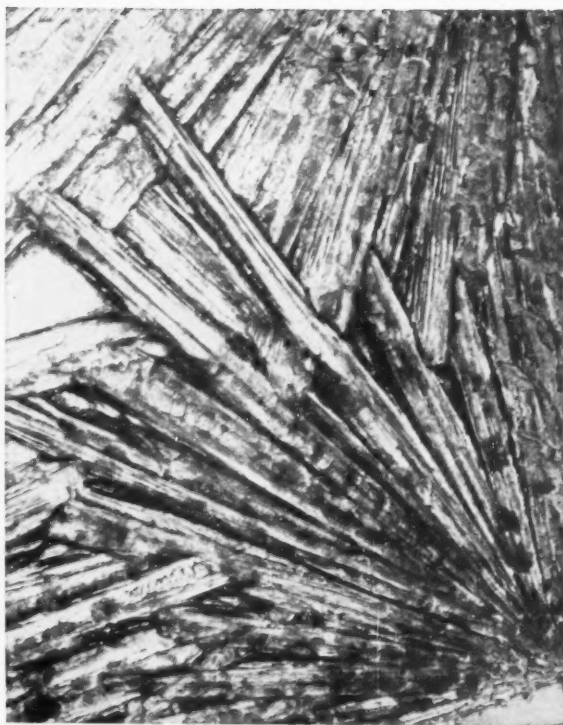
impurities. On the other hand, the purity measurement of Barrett Phthalic Anhydride leaves no room for doubt.

Now you have greater assurance than ever that Barrett Phthalic Anhydride will react smoothly and contribute its full share to the uniformity of end products—be they alkyd resins, polyesters, plasticizers or chemical intermediates. For Barrett PA must now measure up to an uncompromising standard of purity—a standard that phthalic users have long needed.

Enter a new age of confidence in your purchasing of phthalic anhydride with Barrett PA, molten or solid—99.7 mole per cent pure! Call your Barrett representative or write direct for complete details of Barrett service and quality.



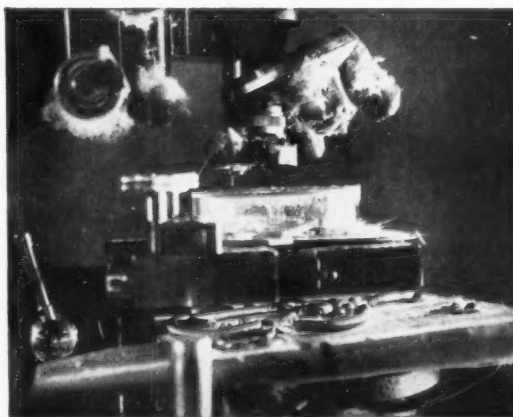
Crystals have now engulfed 75% of area. Freezing point of sample is compared with that of 100 mole % phthalic anhydride permitting accurate calculation of over-all purity.



4 Completely crystallized phthalic anhydride is shown, magnified 25 times. By the method of calorimetric freezing point determination, Barrett commercial phthalic measures 99.7 mole % pure.

for Phthalic Anhydride

This microscope assembly was specially designed to take photomicrographs of crystal growth in progress (see sequence above). Just below the lens of the microscope, optical glass covers the microslide, protecting lens from heat of molten sample. Below the slide is heating element used to control rate of crystal formation, which takes place at 132°C. Frost-like deposits are sublimed crystals of phthalic anhydride formed gradually during long hours of delicate photography.



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completely integrated, the project can proceed more rapidly to meet the agreed-upon schedule and contract price.

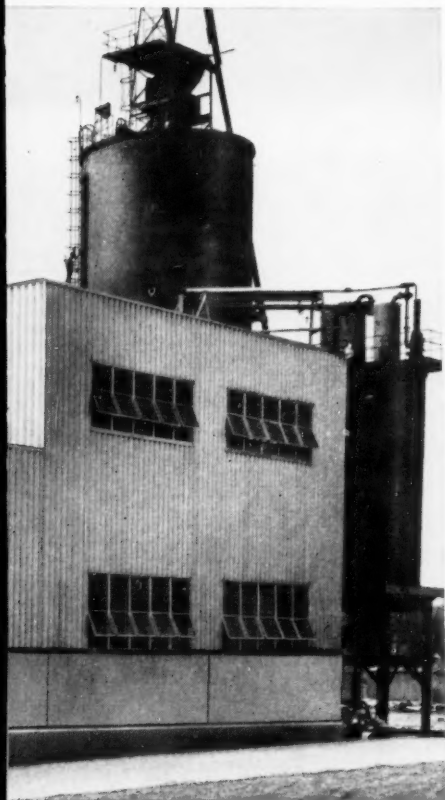
Working to design requirements specified by the customer, Dravo handles construction-engineering, procurement of equipment and erection of the complete power plant. With this type of single



Electric power and high pressure steam for mill supply in a steel company are produced by this Dravo-built power plant.



This Dravo-built boiler plant furnishes electric power and high pressure steam used in refinery process work.



◀ Steam and compressed air for a large automobile parts factory are supplied by this Dravo-designed and constructed boiler plant, one of five such "turn-key" projects for the same company.

Steam power for a chemical processing plant is supplied by this Dravo-designed and erected boiler plant.

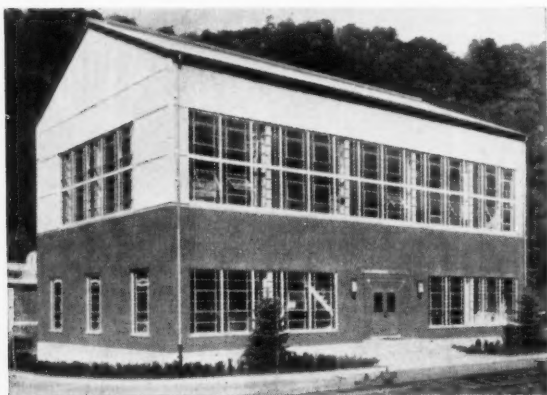


ABILITY TO BUILD ECONOMICAL "TURN-KEY" POWER PLANTS

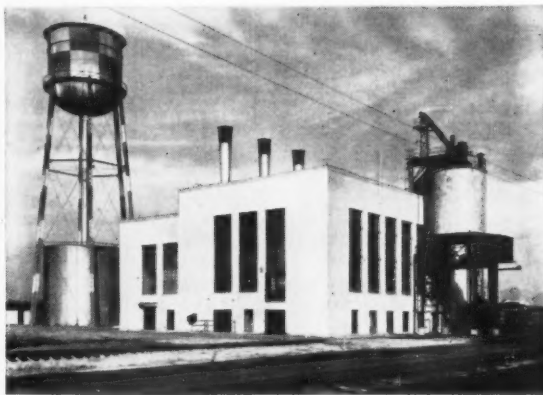
responsibility contract, the customer is relieved of all details, and is assured of the kind of performance that only experienced personnel can produce.

Your next power plant project may benefit from the type of teamwork that Dravo experience makes possible. One of our engineers will be glad to explain how Dravo facilities can serve you.

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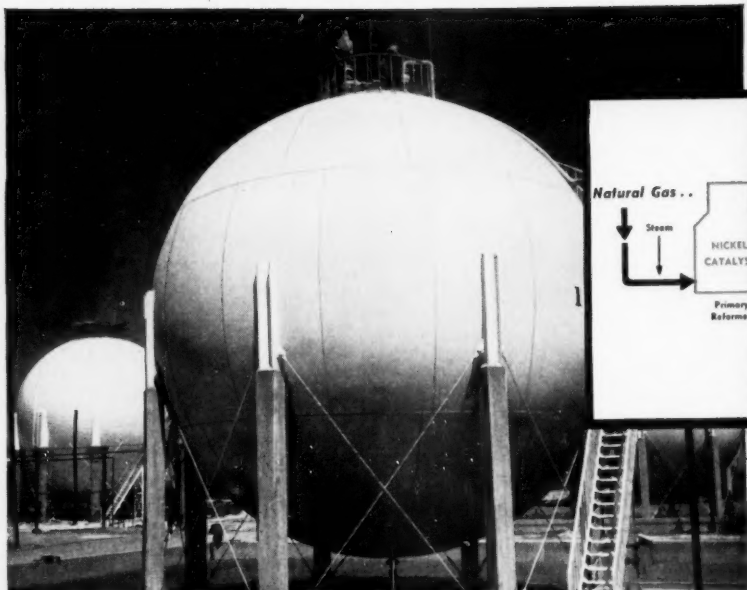


Dravo designed and constructed this electric generating plant as part of a three year expansion program for a gas company.



Compressed air and steam for heating and process work are supplied for an automobile plant by these boiler facilities.

Life on the Chemical Newsfront



ECONOMY IN PRODUCTION of hydrogen and ammonia results from the use of Cyanamid's AERO® catalyst NR-1 for gas reforming, HI-3 and 3A for water-gas shift reaction and FM-2 for ammonia synthesis. These catalysts are products of more than thirty years' experience in catalyst development and engineering. They provide high catalyst activity, stabilized to remain high for long periods; physical strength to resist breakdown; optimum size and shape to ensure low pressure drop through catalyst beds; and low volumetric cost. Complete brochure available on request.

(Industrial Chemicals Division)



GIVING A GENTLER "HAND" TO FABRICS is the role of softeners in textile processing. By lubricating fibers and softening resin additives, these textile chemicals give fabrics a better drape and improved appearance—also facilitate cutting and sewing in garment manufacture. Cyanamid's complete line of CYANATEX® and AEROTEX® textile softeners ranges from sulfonated natural fats and oils to completely synthesized chemicals designed to provide specific fiber-modifying properties.

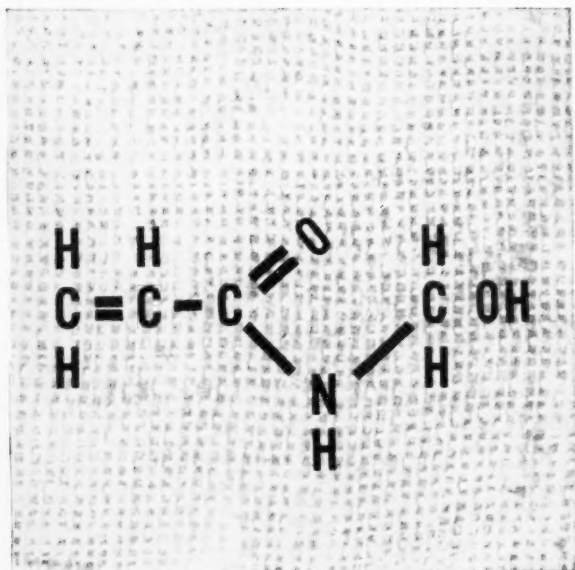
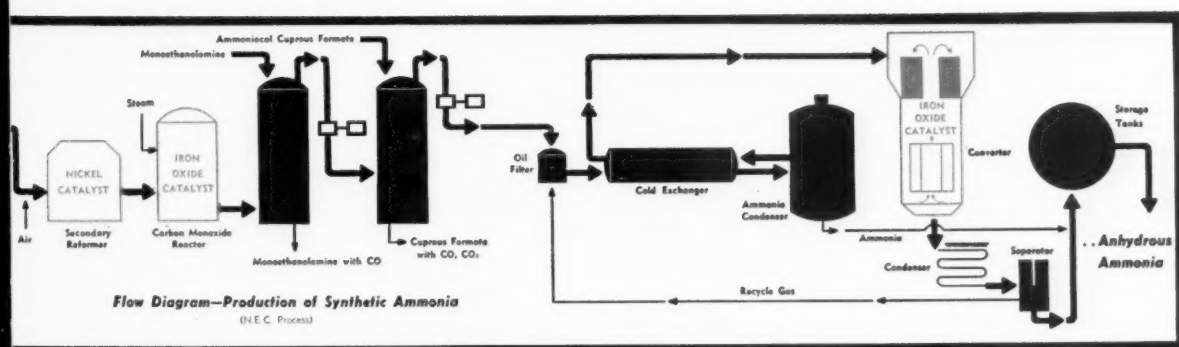
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(Organic Chemicals Division)



MANY NEW FLEXIBLE PACKAGING MATERIALS, as in this tobacco pouch, are being coated with polyvinyl acetate for improved moisture and grease resistance and clarity over printed matter. Especially effective as a PVA emulsifier is Cyanamid's new AEROSOL® TR surface active agent. AEROSOL TR produces a uniformly low particle size—2 to 2½ microns—through an unusually wide range of concentration from 0.05% to 1.0%. Emulsion and cast film benefit by increased stability and good dry film resistance to moisture, grease and water-spotting.

(Industrial Chemicals Division)



"WARP AND WEFT" FOR WEAVING POLYMERS are provided by the new bifunctional monomer *N*-methylolacrylamide. Since the monomer contains both a conjugated vinyl group and a reactive hydroxymethyl group, linear polymers can be formed, followed by cross-linking if desired through the remaining unreacted functional group. Addition reactions of the vinyl group, followed by condensation polymerization, further extend the structural possibilities. *N*-methylolacrylamide thus offers the possibility of formation of a wide variety of products for adhesives, cements and thermosetting plastics. We will be pleased to forward additional information on request.

(Market Development Department)



NEW STABILITY IN SUNLIGHT for plastic boat hulls now can be secured by adding as little as 0.25% of UV 9* *ultraviolet absorber* to the polyester resin before laminating with glass fiber. Highly effective as a light stabilizer, UV 9 protects polyester resin laminates from discoloration and degradation through its remarkable ultraviolet-absorbing properties. The useful life of stabilized polyesters, methacrylates and styrene polymers is multiplied many times. Clarity of the resins, formulation schedules, and properties of the cured resin are unaffected. (Organic Chemicals Div.)

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For further information on these and other chemicals, call, write or wire American Cyanamid Company

May 3, 1958 • Chemical Week

OPINION

Engelhard's Reprocessing

TO THE EDITOR: The "long-awaited service—the commercial reprocessing of fuel fabricators' scrap" referred to in your article "Industry Builds an Integrated A-Fuel Plant" (March 8, p. 44) has actually been in operation at Engelhard Industries, Newark, N. J. under license from Atomic Energy Commission issued in June '57.

The Engelhard Industries enriched uranium scrap plant has been recovering uranium for the industry at costs that are equal to or less than AEC's costs of handling its own scrap.

We are happy to welcome Davison as the second commercial scrap processor in the industry.

LAWRENCE C. BURMAN
Engelhard Industries, Inc.
Irvington-Baker Refining Division

Engelhard's facilities were described to us as a pilot plant, but we'll take the official word of reader Burman that they're commercial-scale. —ED.

Petrochemical Coverage

TO THE EDITOR: . . . Your journal's very wide news coverage is a source of never-failing wonder to us. Our special field of interest is in petrochemicals, and it is not too much to say that we learn more about European petrochemical developments from your journal than from any British journal. . . .

R. STANLEY SMITH
R. Stanley Smith and Associates
London, England

MEETINGS

American Petroleum Institute, division of refining, 23rd midyear meeting, Statler Hotel, Los Angeles, Calif., May 12-15.

Technical Assn. of the Pulp and Paper Industry, ninth coating conference, Bedford Springs Hotel, Bedford Springs, Pa., May 14-15.

Institute of Paper Chemistry, executives' conference, Appleton, Wis., May 5-16.

National Congress of Chemistry and British Society of Chemical Industry, national congress, Turin, Italy, May 25-31.

Stanford Research Institute, fourth Western area development conference, Vancouver, B.C., May 26-27.

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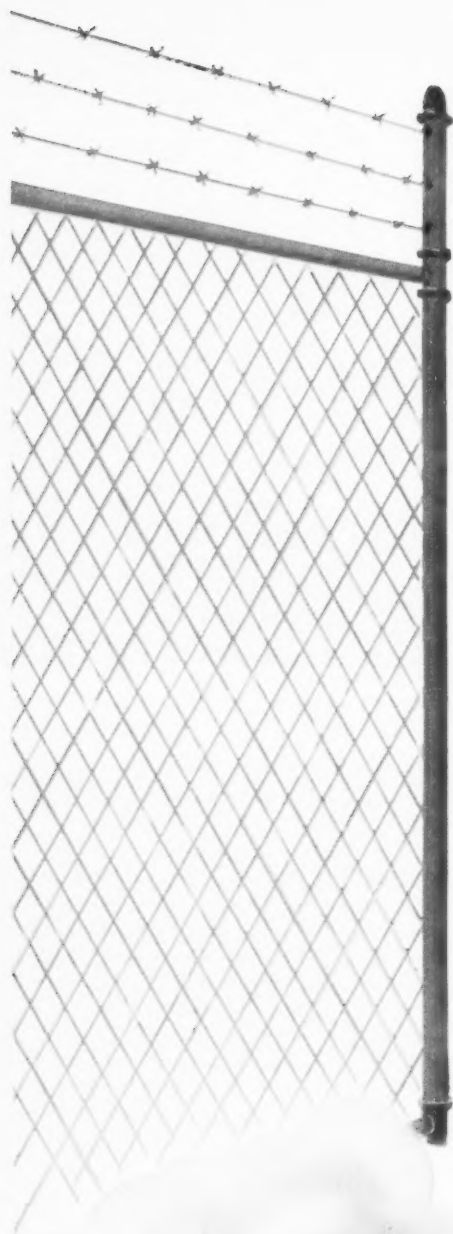
Paul W. Erb Circulation Manager

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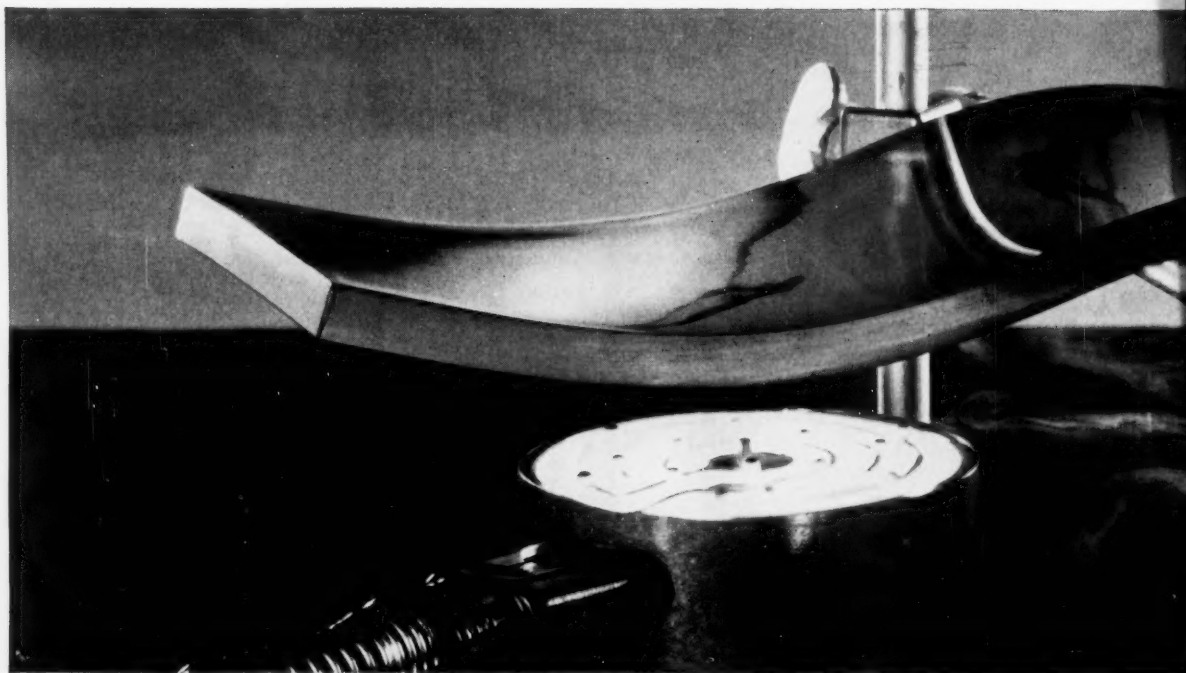
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3M Chemicals opening new worlds of use for epoxies, elastomers, paints, sealants

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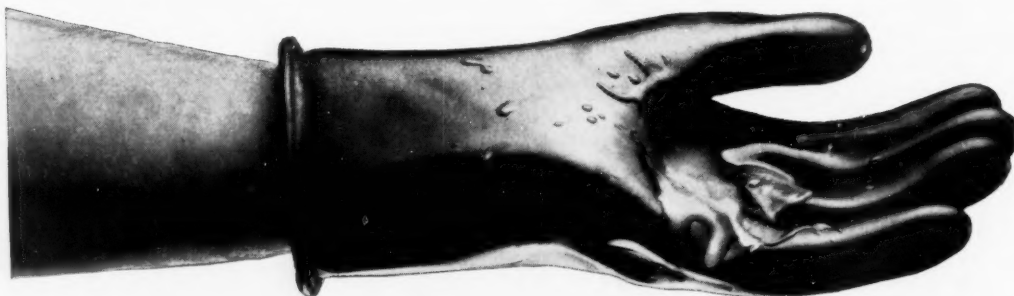
Now, with CARDOLITE® NC-513, flexibility in epoxy resin systems can be maintained permanently . . . even at temperatures that range from a biting-cold -65°F . to a blistering-hot $+400^{\circ}\text{F}$!

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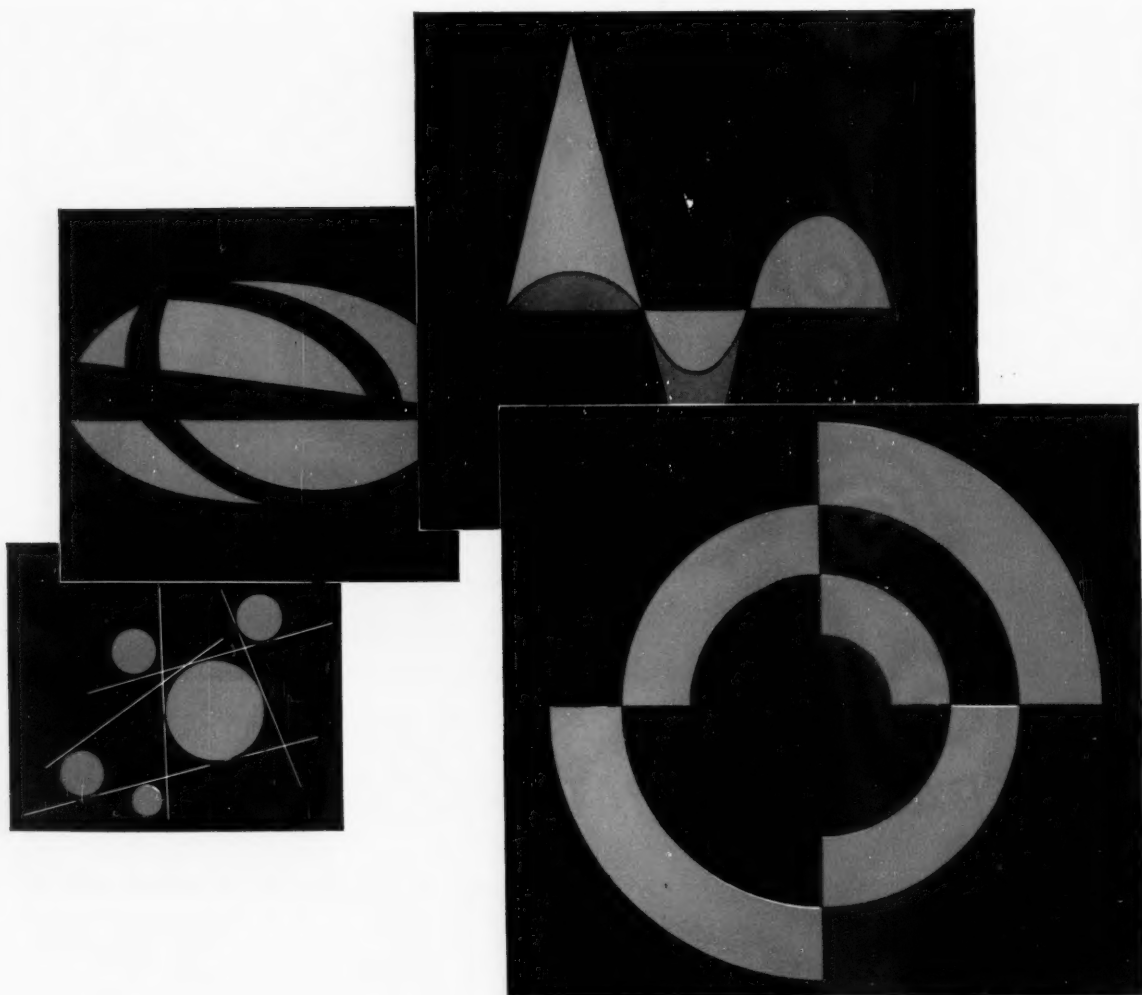
"Do-nothing" chemical. The conventional sealant in this HF processing pump was replaced by a 3M fluorochemical inert fluid. Because this "do-nothing" chemical normally won't react with, mix with, dissolve in anything, it resists the acid's attack. Result: greatly increased efficiency; no more HF fumes. FLUOROCHEMICALS DIVISION.

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Business Newsletter

CHEMICAL WEEK

May 3, 1958

"You've got to go ahead with expansion plans so you won't be caught short when business picks up." That's the current philosophy of Union Carbide President Morse Dial and a growing number of other chemical industry executives.

Among the expansions and acquisitions revealed last week:

- Union Carbide's Linde Division will build a new 80-million-cu. ft./month on-the-spot oxygen generator at Lukens Steel Co.'s Coatesville, Pa., plant to replace an existing 20-million-cu. ft./month unit. Linde will also build facilities to store liquid and gaseous oxygen on the site.
- The Glidden Co. (Cleveland) will buy the domestic paint business of General Paint Corp. (San Francisco). Though details haven't been revealed, directors of the two companies have approved a purchase plan. Stockholders will vote on it early this month.

Union Carbide Canada will fortify its strategic position in Canada's polyethylene market by expanding the Montreal plant that went onstream last fall. Capacity will be upped 30%, to 40 million lbs./year. It's due onstream April, '59. Canada's only other polyethylene producer, Canadian Industries Ltd., is doubling capacity of its Edmonton plant to 40 million lbs./year. Total consumption of polyethylene in Canada last year was 34 million lbs.

But one firm has shelved expansion plans. E. J. Lavino (Philadelphia) has "deferred for the time being" construction of a 50,000-tons/year magnesia-from-sea water plant at Freeport, Tex. It was due onstream by mid-'59 to provide magnesite for captive use. Reasons for the stop-order: "to do some more engineering, and because of the steel slowdown"—which cut refractory brick demand.

And latest earning reports still mark an economic downbeat
(see also p. 23).

Freeport Sulphur, for example, reports first-quarter earnings of \$2.9 million, a drop from the \$3.1 million earned in the same period of '57. Profits per share were \$1.18 in the '58 quarter, \$1.27 the year before.

The nine-month earnings of American Agricultural Chemical Co. (New York) reflect the agricultural chemical industry's trouble with February weather, as well as general business conditions. Net income was \$869,232 on gross profits of \$4.88 million. In the same period ending March 31, '57, the net was \$1.1 million; gross was \$4.96 million.

But Smith, Kline & French Laboratories shareholders got a shot of the happy news shared by most pharmaceutical company investors. Their per-share earnings reached \$1.04 in the past quarter, a healthy boost over the 96¢/share earned in the first quarter of '57. Pretax earnings for the past

Business Newsletter

(Continued)

quarter were \$10.9 million; net profits were \$5 million. In the corresponding '57 period, net earnings were \$4.6 million.

Pittsburgh Plate Glass Co. reports first-quarter sales dropped 22%—to \$117.3 million—from the same period last year. Net earnings dropped 61%, to \$5 million, or from \$1.34 to 51¢/share. Glass, paint, and chemical sales all slid. But Chairman Edwin Asplundh says the firm is going ahead with its authorized expansion program.

Other companies reporting no crimp in expansion plans include B. F. Goodrich and Pennsalt. Goodrich Board Chairman John Collyer pegs this year's budget for capital expenditures at \$35 million, about \$4 million under '57's figure. And Pennsalt President William Drake told shareholders at last week's annual meeting that the company will go ahead with all '58 research and expansion programs despite a 28% dip in first-quarter profits.

Two other firms are financing '58 spending via the equity route. National Distillers has registered a \$60-million offering of sinking fund debentures, due 1983, with the Securities and Exchange Commission. About \$39 million will go to pay off long-term bank loans, the balance to reduce short-term debt and build up working capital.

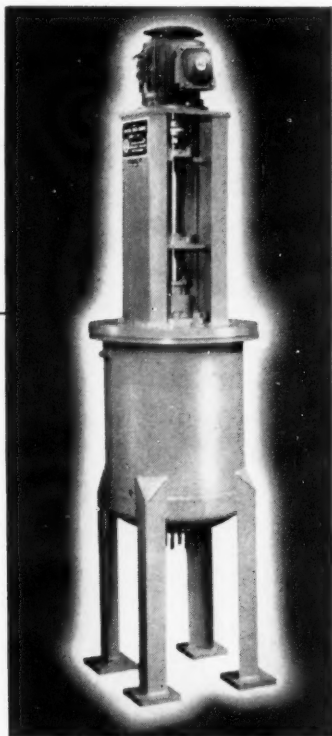
And Monsanto last week sold \$25 million worth of 4½% debentures to an insurance company to garner additional funds for investing in subsidiaries, and other capital expenditures.

National Research Corp. (Cambridge, Mass.) is selling its 10% interest in Escambia Chemical Corp. (Pensacola, Fla.) to Escambia's two other parent companies—Electric Bond & Share Co. (New York) and United Gas Corp. (Shreveport, La.).

Thus, National Research—which has been entrenching itself in vacuum metallurgy, production of rare metals and manufacture of industrial high vacuum equipment (*CW*, April 19, p. 105)—is pulling away from chemicals. The firm helped to establish Escambia four years ago.

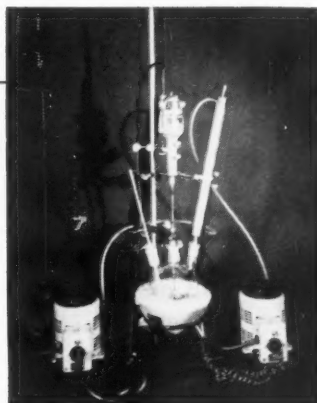
Monsanto Chemical—and chemical industry employers in general—won out in the phosphorus technology lawsuit at Salt Lake City (*CW*, June 22, '57, p. 18).

In U. S. district court there, early this week, Judge A. Sherman Christenson found that Monsanto's personnel contract form—with its restriction on use of trade secrets—was a proper instrument. And Judge Christenson further found that chemical engineer Charles Miller, formerly employed at Monsanto's phosphorus plant at Soda Springs, Idaho, wrongfully revealed Monsanto trade secrets when he joined the Central Farmers Fertilizer Co. and began doing technical work in connection with CFF's \$15.5-million mine, phosphorous furnace and calcium metaphosphate plant under construction at nearby Georgetown, Idaho. The contractor, F. C. Torkelson Co. (Salt Lake City), is a codefendant. Tentative date for settlement: June 21.



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First-quarter Earnings of 31 Chemical Companies

	Sales 1st qtr. '58 (million dollars)	Change from 1st qtr. '57	Net 1st qtr. '58 (million dollars)	Change from 1st qtr. '57	Profit margin 1st qtr. '58	Profit margin 1st qtr. '57
Air Reduction	43.3	down 6.5%	3.4	down 22.2%	7.8%	9.4%
Allied Chemical	148.9	down 10.2%	6.8	down 32.2%	4.6	6.0
American Cyanamid	132.5	up 0.3%	12.4	down 4.2%	9.3	9.8
Atlas Powder	15.1	down 12.2%	0.5	down 44.6%	3.5	5.6
Catalin	4.9	down 21.4%	0.04	down 51.7%	0.9	1.5
Commercial Solvents	13.3	down 9.7%	0.4	down 31.3%	2.7	3.5
Diamond Alkali	26.9	down 11.0%	0.9	down 62.2%	3.2	7.5
Dow ⁽³⁾	144.8	down 12.3%	7.9	down 41.6%	5.5	8.2
Du Pont ⁽⁵⁾	415.0	down 17.3%	39.8 ⁽¹⁾	down 40.9%	9.6	13.4
Foote Mineral	5.7	down 14.4%	0.5	down 20.0%	8.7	9.3
General Aniline	32.2	down 1.0%	0.8	down 12.7%	2.7	2.8
Hercules Powder	56.8	down 6.7%	3.3	down 19.4%	5.8	6.7
Heyden Newport	10.9	down 13.4%	0.4	down 49.4%	3.7	6.4
Hooker	23.0	down 11.1%	1.8	down 23.2%	7.7	8.9
Interchemical	25.9	down 7.2%	0.6	down 26.1%	2.4	3.0
Koppers	63.7	down 11.4%	1.0	down 50.3%	1.5	2.7
Merck	50.2	up 11.5%	6.6	up 14.2%	13.1	12.8
Monsanto ⁽⁴⁾	161.1	down 13.0%	7.6	down 48.9%	4.7	8.0
National Distillers	114.3	down 22.0%	5.5	down 4.9%	4.8	4.0
National Starch	10.6	down 0.6%	0.6	down 16.8%	5.5	6.6
Olin Mathieson	127.6	down 6.4%	4.5	down 55.3%	3.5	7.3
Pfizer	53.8	up 6.1%	6.5	up 19.0%	12.1	10.8
Pittsburgh Coke	10.3	down 25.0%	0.2	down 76.9%	2.0	6.6
Pennsalt	18.5	down 3.2%	0.7	down 28.3%	4.0	5.4
Rayonier	25.6	down 14.9%	0.5	down 75.8%	1.9	6.6
Reichhold Chemicals	15.8	up 3.0%	0.4	down 0.5% ⁽²⁾	2.6	2.7
Rohm & Haas	39.2	down 10.7%	2.8	down 30.5%	7.3	9.3
Stauffer	37.6	up 1.4%	2.7	down 11.6%	7.3	8.4
Union Carbide	294.0	down 16.3%	22.8	down 35.6%	7.8	10.1
Victor	13.0	down 7.8%	0.9	down 17.3%	7.0	7.8
Wyandotte	16.8	down 13.7%	0.1	down 87.4%	0.7	4.6

(1) CW estimate.

(2) Excludes \$130,454 from sale of investments, first quarter '57.

(3) Three months ended Feb. 28.

(4) Including foreign and domestic subsidiaries.

(5) Excluding revenue from General Motors.

Still in a Slump—but Optimists Abound

Chemical earnings hit a two-year low in the January-to-March quarter, with after-tax profits and profit margins showing the deepest declines. Most chemical men agree that, while the slump isn't over yet, various recent developments—an upturn in chemical employment, firmer sales in nylon, sulfur, aluminum and other commodities, and an expected pickup in steel—have brightened the outlook for the rest of the year.

Optimism resounded in the comments of executives speaking to shareholders at last week's rash of annual meetings.

Air Reduction President John Hill, reporting a 22% drop in profits, says: "Business has been and still is declining, but we may be near the bottom of the recession now." Hill said Airco isn't deferring any expansions.

Union Carbide President Morse Dial: "We see the recession lasting

only a matter of months. We will spend \$150 million on expansion in '58, only about \$40 million less than in '57."

Even hard-hit Wyandotte, whose earnings skidded 87% to about \$100,000, is optimistic. Says President Robert B. Semple: "Our . . . business volume is improving . . . slightly." Wyandotte will keep research activities at present levels and budget more to build its long-term sales position.

PROCESS INDUSTRIES IN '57: SALES UP,

Sources: Federal Trade Commission and Securities & Exchange Commission.

	Chemicals and allied products		Paper and allied products		Products of petroleum and coal		Rubber products	
	1957	Change from '56	1957	Change from '56	1957	Change from '56	1957	Change from '56
Net sales	\$23,427	5.6%	\$10,420	-2.3%	\$28,248	8.8%	\$6,406	3.3%
Operating profit	3,188	0.9%	1,038	-5.4%	2,836	-3.1%	525	-6.1%
Other income (net)	190	8.0%	-17	—	536	-27.5%	1	—
Provision for U.S. income tax	1,587	1.9%	497	-20.6%	469	-36.2%	255	-7.3%
Net income	1,792	0.7%	521	-20.7%	2,905	-0.9%	271	-1.8%
Cash dividends	1,059	5.8%	270	-1.1%	1,351	7.4%	107	3.9%
Retained earnings	733	-5.8%	251	-34.6%	1,554	-7.1%	164	-5.2%
Total depreciation and depletion	953	6.8%	376	4.4%	2,041	10.5%	172	11.7%

CPI: Better than Most in Weathering the

Chemical process companies, on the whole, are weathering the current recession better than most other industries, according to final '57 business data out last week.

Within the process industries, makers of pharmaceuticals have been making the highest relative gains in the face of economic stress. The segment hardest hit: primary nonferrous metals—including aluminum and titanium as well as those traditionally erratic performers, copper, lead and zinc.

In relative gains in sales, earnings and cash dividend payments, as well as profit ratios, makers of chemicals and allied products generally exceeded the all-manufacturing averages last year.

Strength in Drugs: Pharmaceutical companies have accounted for much of the strength in the "chemicals and allied products" category. The drug companies' data were not separately recorded until the second quarter of '56; consequently, 12-month compari-

sons can't be made. But during the last nine months of '57, compared with performances in the last three quarters of '56, the pharmaceutical firms:

- Increased net sales 15.6% (12-month '57 total: \$3,165 million).
- Increased net earnings 22.6% (12-month total: \$330 million).
- Boosted cash dividend payments 25.2% (12-month total: \$162 million).
- Raised retained earnings 20% (12-month total: \$168 million).

Over the entire year, the drug companies increased their quick assets (cash plus U.S. government securities) 18.6%, to \$574 million, and their total assets 15.3%, to \$2,596 million. Their net working capital rose 16.3%, to \$1,092 million. Their stockholders' equity mounted 14.5%, to \$1,866 million.

Chemical Profits Pinched: Contrasted with pharmaceuticals' brilliant showing, industrial chemical companies hewed closer to the general

economy line last year. In the last three quarters of '57, compared with that period in '56, makers of industrial chemicals chalked up these results:

- Net sales up 4.3% (12-month '57 total: \$10,178 million).
- Net earnings down 2.9% (12-month total: \$766 million).
- Cash dividend payments up 3.1% (12-month '57 total: \$652 million).
- Retained earnings down 14.3% (12-month total: \$314 million).

Depreciation figures show that industrial chemical companies are gradually closing out the fast tax write-offs for expansion projects completed after Jan. 1, '50, under national security certificates of necessity. Amortization of these facilities dropped from \$88 million during the last nine months of '56 to \$71 million in the same period of '57.

Other set-asides for depreciation and depletion, however, increased from \$376 million to \$479 million in those periods. This reflects these com-

PROFITS DOWN

(All dollar figures in millions)

Stone, clay and glass products	Change from '56	Primary nonferrous metals	Change from '56
1957		1957	
\$8,238	-0.5%	\$8,168	-15.0%
1,132	-12.0%	966	-39.8%
23	27.8%	-43	—
534	-14.3%	386	-44.1%
619	-9.1%	537	-39.6%
287	2.5%	321	-18.3%
332	-17.2%	216	-56.4%
359	12.2%	283	4.4%

Economic Strain

panies' 13.8% rise in physical assets over the past calendar year to a total value of \$5,311 million.

For industrial chemical companies, average profit margin (net earnings to net sales) dipped from 10.0% in the last three quarters of '56 to 9.5% over the 12 months of '57. Net earnings per dollar of stockholders' equity shrank from 13.8¢ (annual rate basis) in the last nine months of '56 to 12.7¢ last year.

But for drug companies, the trend was toward higher profitability. Average profit margin from '56 data was 10%, rising to 10.4% in '57. Net income per equity dollar edged up from 16.99¢ (annual rate basis) in the last three quarters of '56 to 17.68¢ for all of '57.

Aside from the metals producers, process companies came through 1957 and the start of the recession with a 4.9% rise in sales and a 3.4% drop in earnings. By comparison, all-manufacturing sales were up by 4% and earnings were down by 4.9%.

More Property and Materials, Less Cash

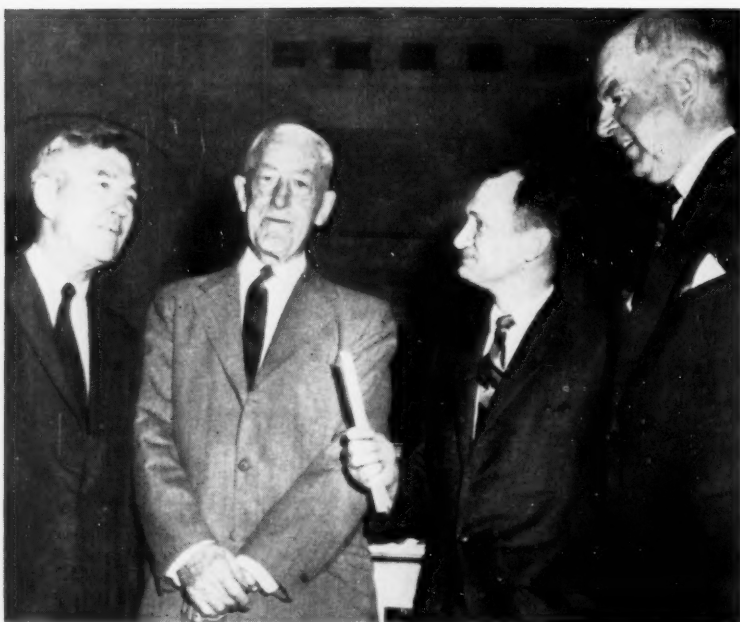
Balance sheet for makers of industrial chemicals
at end of 1957, showing changes since end of '56.



Profit Ratios Descending

Industrial category	Net income to net sales		Net income to stockholders' equity	
	1956	1957	1956	1957
All manufacturing industries	5.3%	4.8%	12.0%	10.7%
Chemical process companies:				
Chemicals and allied products	8.0%	7.6%	13.7%	13.0%
Paper and allied products	6.2%	5.0%	11.4%	9.0%
Products of petroleum and coal	11.3%	10.3%	13.3%	12.0%
Rubber products	4.4%	4.2%	11.8%	10.9%
Stone, clay and glass products	8.2%	7.5%	14.3%	12.1%
Primary nonferrous metals	9.2%	6.6%	16.2%	9.2%

Sources: FTC and SEC.



Taking the stand: Witnesses at House probe of nickel deals.*

Nickel Royalties Under Fire

Cuban nickel deals between Freeport Sulphur Co. (New York) and the U.S. Government were raked over political fires last week at a two-day hearing of the House Government Operations Subcommittee.

Freeport supplies ore to the government plant in Nicaro under an agreement extending to 1968.

Subcommittee Chairman Jack Brooks (D., Tex.) charged at the hearings that the \$14 million in royalties already paid to Freeport "seems excessive, possibly two or three times more than a fair price," and that the high royalties will hurt government prospects of ever selling or leasing the plant to private firms. Congress has ordered GSA to sell the plant by Dec. 31.

The government pays Nicaro about \$1.70/short ton of ore. Bureau of Mines reportedly has placed its value at 30¢/ton. The government may cancel the contract on six months' notice if it thinks the royalties are unfair. It will soon be able to get 80% of requirements from its own mines.

Freeport has another GSA con-

*Left to Right: Ira Beynon, Nicaro plant administrator; Franklin Floete, GSA administrator; Rep. Jack Brooks, subcommittee chairman; Langbourne Williams, president of Freeport Sulphur Co.

tract for supplying Cuban nickel through its subsidiary, Cuban American Nickel Co. The U.S. will buy up to 271 million lbs. of nickel (for at least 74¢/lb.) and 23.8 million lbs. of cobalt (for at least \$2/lb.), to be extracted from ores mined at Cuban American's Moa Bay development. Production is slated to start in the summer of '59.

Stronger in Chemicals

Weighing in with its annual report last week, W. R. Grace & Co. reveals that the company gained further stature last year as a factor in the U.S. chemical industry.

Sales of the chemicals group (seven operating divisions) reached \$166.8 million last year—36.3% of Grace's total sales. In '56, the group accounted for \$156.8 million—a 35.7% slice. Latin-American paper and chemical operations contributed another \$5.5 million to Grace this year.

But chemical profits dropped 10% from the '56 level, primarily because of heavy preoperating expenses of the company's new polymer division. Capital expenditures for the group were \$25.6 million.

Unification for Syntex

Syntex—the Mexico-Puerto Rico-United States organization that makes synthetic hormone products from barbasco root—is set this week to reorganize as an integrated and publicly owned producer and distributor.

A new company—Syntex Corp.—is being formed under Panamanian law to be the parent company for Syntex International, S.A., in Mexico and Puerto Rico; and Chemical Specialties Co., Inc. (New York).

Their functions:

Syntex, S.A., buys barbasco root in Mexico and extracts diosgenin. The corporation affiliate in Puerto Rico, American Steroids, Inc., processes that material into advanced intermediate and finished hormone stages. Products destined for sale in bulk pharmaceutical companies in the U.S. are shipped to Chemical Specialties Co. in New York; products destined for sale in packaged dosage forms in the U.S. are handled either by the other Puerto Rican affiliate, Pharmaceutical Products Co., or, if veterinary products, by Foundation Laboratories, a Chemical Specialties subsidiary.

Stockholders of Ogden Corp.—the New York investment firm that owns the Syntex companies—will probably wind up with 95% of the 1,202,730 shares of \$2 par common stock. Head man in this group is Charles Allen, Jr., senior partner of Allen & Co. (New York), which owns 49% of Ogden stock.



Allen: He's making Syntex an integrated, publicly held firm.

Chemical Week • May 3, 1958

COMPANIES

Reynolds Metals Co. registered record first-quarter sales of \$115.6 million, compared with \$105.1 million in that period in '56. First-quarter earnings were \$9.9 million, against \$9.8 million for the same period last year. Profits in the final quarter of '57 were \$10.1 million. President Richard Reynolds told stockholders that sales will drop this year when two-thirds of the firm's government stockpile sales rights expire in May. Commercial sales account for 70% of Reynolds' total business.

B. F. Goodrich Co.'s net first-quarter sales were \$161.9 million this year, down 11.8% from \$183.6 million in the same period in '57. Net income in the same period dropped 38%, from \$10.1 million to \$6.2 million. Part of the decline resulted from reduced first-quarter sales to the government—5.2% of total sales, compared with 7% in first-quarter '57.

Libbey-Owens-Ford Glass Co. (Toledo, O.) reports first-quarter profits dropped 55%, from \$8.2 million to \$3.7 million, compared with the same period in '57. Despite the drop-off, the firm will boost capital expenditures 50% this year, to about \$15 million.

Phillip Morris, Inc., has entered the chemical field by acquiring Polymer Industries, Inc. (Springdale, Conn.), producer of industrial adhesives and textile chemicals.

Jefferson Lake Sulphur Co. (New Orleans) has declared 1.5% common stock dividends for the last three quarters of '58 "in order to conserve cash," according to President Eugene H. Walet, Jr. First-quarter earnings reportedly were lower than those in the previous quarter.

Thiokol Chemical Corp. (Trenton, N.J.) reports first-quarter sales rose to \$7.8 million, compared with \$6.3 million in the same period last year. Profits, however, slipped from \$298,505 to \$203,109 due to the Elkton plant fire—which disrupted operations for several months—and a stretch-out of work at the Redstone Arsenal. President Joseph W. Crosby expects this year's total earnings will be 50% greater than '57's.

EXPANSION

Organic Chemicals: Dewey & Almy Chemical Co. (division of W. R. Grace & Co.) will build a \$4-million organic chemical and battery separator plant at Owensboro, Ky. Construction will begin in May; operations are slated to start early next year.

Paper Containers: Olin Mathieson is expanding its paper products facilities. In Joliet, Ill., the firm will build a corrugated shipping container plant equipped to turn out 30 million sq.ft./month of corrugated board.

Production is slated to start early next year. A similar plant is abuilding in Cincinnati. And at West Monroe, La., OM will start making folding cartons in a new plant next fall.

Ink: Southern Printing Ink Corp. (Richmond, Va.) will enter the gravure field and enlarge its South Richmond plant.

Phosphate: The First Mississippi Corp. plans to build its third plant, a \$225,000 phosphate plant at Pascagoula. But its final decision depends on Jackson County citizens' response to a \$50,000 stock offering.

Paper: Fox Paper Co. (Lockland, O.) plans a \$7-million, five-year expansion program to increase production more than 50%. Included: modernization of paper machines and a new bag plant.

FOREIGN

Tripolyphosphate/Mexico: Monsanto Mexicana S.A., subsidiary of Monsanto Chemical Co., plans to start construction in July of Mexico's first tripolyphosphate and phosphoric acid plant. Monsanto will locate the plant in Lecheria (20 miles from Mexico City), where it already produces industrial chemicals and plastics. Plant cost: \$2.4-million. Estimated capacity: 24,000 tons/year of tripolyphosphate. Mexico now consumes 16,000 tons/year, will likely use 18,000 tons by '60.

Pharmaceuticals/Colombia: Following its recent expansion in Brazil (*CW*, April 19, '58, p. 34), Merck & Co. has started up a plant in Cali, Colombia, to produce sterile and nonsterile pharmaceutical products, including antibiotics, steroid hormones and vitamins. Merck, Sharp & Dohme (I.A.), a subsidiary, will operate the plant.

Dyestuffs/Brazil: Southern Dyestuff Corp. (Charlotte, N.C.) has purchased half interest in Naegeli & Cia., Ltda. (Rio de Janeiro), and has formed a new firm, Naegeli S.A. It will expand the company's line with products it now makes in the U.S.

Chemical Sales/England: Imperial Chemical Industries Ltd. and its subsidiaries scored their record in sales last year, \$1.3 billion—a 6.3% rise over '56 sales. The parent company alone accounted for \$869.7 million, compared with \$816.2 million in '56. Profits for the ICI group were \$172.2 million; for the parent company, \$130.7 million. Exports (mostly to Europe) totaled \$214.5 million, up 5% from those of '56.

Antibiotics/India: Merck & Co. will provide technical help in building and operating India's first streptomycin and dihydrostreptomycin plant. A private firm, Hindustan Antibiotics Ltd. (Pimpri) will operate the installation, which Merck says will fill India's needs "in the immediate future."



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Washington Newsletter

CHEMICAL WEEK

May 3, 1958

A compromise one-year trade bill extension is being worked out by the House Ways & Means Committee. It would grant no new tariff-cutting authority, place no additional restrictive amendments on present law. Leaders still have to sell this compromise but it is being considered as the best bet yet to get by both houses of Congress and the White House without a lengthy wrangle.

Both sides could find satisfaction. Eisenhower could accept without too much loss of face. Protectionists would claim defeat of the President's five-year, 25% tariff-cutting bill (while "free traders" could say they kept the law on the books pending an upturn in the recession and a more favorable Congressional climate).

•
Independent oil producers, meanwhile, are pushing hard for specific commodity quotas to be written into law. A bill along this line by Rep. Frank Ikard (D., Tex.) is getting an airing in Ways & Means sessions, but domestic oil power on Capitol Hill isn't strong enough to get legislation on quotas without help from other producers.

Lead and zinc producers will battle the trade bill despite having won a modest victory last week when the Tariff Commission unanimously recommended higher tariffs. Most wanted quotas as well, but the commission split 3-3 along party lines on this request. The Democratic members of the tariff agency also urged lower tariff increases than their Republican colleagues.

What Eisenhower does with the tariff agency's conflicting findings will have an effect on the trade bill outcome, including chances for the compromise postponement. He has 60 days in which to act, after getting advice from his newly formed Interagency Trade Advisory Committee.

•
Food chemicals are back in the Congressional spotlight in the latest wrangle between Florida's citrus fruit growers and the Food & Drug Administration. The House Interstate Commerce Committee opened hearings on the produce industry's demand to revoke a section of food and drug laws requiring that consumers be advised whenever chemical preservatives have been applied to fresh fruits and vegetables after harvesting.

Produce growers, led by Florida's citrus industry, argue that FDA did not go far enough in two recent rulings. One of these granted an exemption from all labeling of fresh fruits and vegetables when the chemicals are applied prior to harvest. The other, a proposed amendment to FDA's labeling regulations, would free retailers from listing the chemical preservatives used to treat citrus fruit—as long as they post placards telling customers that the fruit has been so treated.

The government feels that the industry bill, sponsored by Rep. James A. Haley, would weaken protection against concealing information

Washington Newsletter

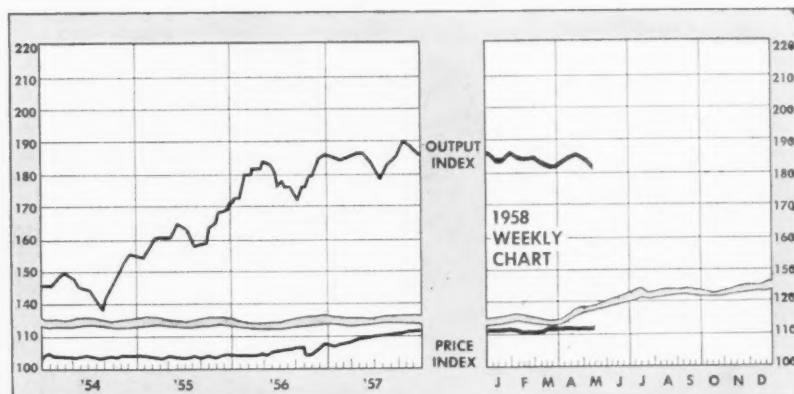
(Continued)

from the public. FDA Deputy Commissioner John Harvey is taking the same line. Prospects are that the committee will see things FDA's way, turn down industry's bid for a blanket exemption.

More money for saline water research is in the cards. The Federal Office of Saline Water this week signed a cooperative research pact with California, which had just ended a bitter intrastate row by voting its state water resources board \$425,000 for such projects. Under the pact, both agencies can pool funds to back research aimed at developing cheaper methods of converting sea water to fresh water.

The agreement, first of its kind in the six years since startup of the federal research program, followed hard on the heels of a move by Interior Secy. Fred A. Seaton for White House backing for an additional \$530,000. The supplementary fund would bring to \$1,355,000 the amount that can be put into research contracts in fiscal '59.

An expert advisory committee urged Seaton to press a program for accelerating and broadening saline water research activities. Among the proposals: continue federal support beyond '62, the present termination date; get additional funds—outside the research appropriation—for any new pilot or demonstration plants. Bills to provide \$10 million in federal financing for such testing facilities are getting strong backing from Western senators and congressmen—but are encountering objections that more research is needed to justify a capital spending program.



Business Indicators

WEEKLY

	Latest Week	Preceding Week	Year Ago
Chemical Week output index (1947-49=100)	181.0	183.0	183.5
Chemical Week wholesale price index (1947=100)	111.0	110.9	109.8
Stock price index of 11 chemical companies (Standard & Poor's Corp.)	38.66	38.49	49.17

MONTHLY

	Latest Month	Preceding Month	Year Ago
Production (Index 1947-49 = 100)			
All manufacturing and mining	129	131	148
All chemical products	180	181	186
Industrial chemicals	194	195	206

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May 3, 1958 • Chemical Week

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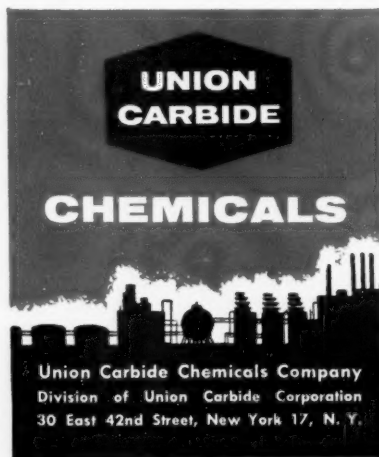
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Photo Courtesy of United States Air Force.



Teacher Colborn supervises experiment in brand new laboratory, a result of . . .

New Experiment in Aid to Education

Olin Mathieson's pioneering plan for direct aid to education—giving outstanding high school students the direct benefit of teaching by a top educator—will be a year old next month but can already be marked with success.

The plan started taking shape a little less than a year ago. In June '57, Robert Evans, OM's Forest Products Division vice-president and general manager, conceived the idea to provide the school board at Neville High School, Monroe, La., with a grant of \$10,000. The fund was to be used to obtain "an exceptional teacher who would conduct an advanced course in chemistry for a specially selected group of superior students." OM says it knows of no other instances where local industry has adopted such a direct aid plan.

Fast Search: In July, the board sent letters to educators throughout the country, outlining the plan and asking them to suggest a teacher who could best handle the job. At the end of August, Evans and the school board got in touch with Lon H. Colborn, a retired teacher from Taylor Allderdice High School in Pittsburgh. In 26 years of teaching, says OM, Colborn had "convinced more than

500 of his students to follow science as a career, with at least 100 of them going on to a doctorate degree."

Colborn became a faculty member at Monroe's Neville High School. His plan: a demanding two hours a day of classroom and laboratory work on college-level chemistry. "But I don't believe in formal homework," he told his students. "I require only that you read a chemistry book two hours every night. No one who completes the course will fail it. The student who survives deserves to pass."

Some 55 students turned out for the competitive examinations to gain admission to the course. The examinations were a surprise; instead of being a test on chemistry fundamentals, they probed a range of subjects determining the students' general knowledge and breadth of interests (see sample questions, p. 34). In September, the top 30 students began their course in chemistry under Colborn's guidance.

Results: The course has already produced somewhat startling results. Most tangible is the school board's decision, at the end of the course's first eight weeks, to put \$4,000 into new chemistry facilities. As a result, says OM, Neville High's laboratories

now rank among the top two or three high school laboratories in the country. Other results:

- Two local school systems will match OM's \$10,000 contribution and are now searching for a top-caliber physics teacher.

- Olin Mathieson, with 56 plants in 27 states, is enthusiastically considering the adoption of the plan on a wide basis. Some executives who have worked closely with it would like to see it as corporate policy.

- Neville High's principal, Paul Neal, says "the level of teaching has been upgraded in other classes in the school."

- A number of the students are on scholarship to go to some leading engineering colleges, and others have lifted their sights as to choice of college; all but five of the 30 intend to follow science careers.

Significantly, for those who feel that people in science careers don't get enough recognition, Principal Neal says, "It used to be that a student was ashamed if anyone called him a brain. Colborn has given our students a new respect for learning. We have a new campus hero—the student with ability to enter this class."

OM feels that the course and its



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BLOCKSON CHEMICAL COMPANY
Division of Olin Mathieson Chemical Corporation
JOLIET, ILLINOIS

ADMINISTRATION

results suggest answers to a number of broad questions that have been raised in the past several years and which have received extra emphasis since Sputnik I ushered in the Space Age last October.

Above all, the program indicates that chemical process firms need not operate solely at long-distance, as with traditional educational grants. They can participate directly in local programs, yet without taint of direct control of curriculum.

OM suggests that high school students will and do respond to the challenge of a tough and demanding

Try This Sample Quiz

1. What color is the pupil of the eye?
2. Is Havelock Ellis a Swede, a Scotchman, or an Englishman?
3. Is 3 x 2 the same problem as 2 x 3?
4. True or False? Helium is used in dirigibles because it's lighter than hydrogen.
5. What very common natural earth formation is the chief constituent of glass?
6. Are the following all elements: iron, copper, zinc, brass, lead?
7. Write the chemical name for baking soda.
8. Which has the lowest freezing point: water, salt water, mercury, alcohol?
9. What is meant by Esperanto?

course of study. The first examination, Neal says, was really tough. "I'd have been delighted with a chemistry student who could have passed that test at the end of an entire year."

OM says the course may also have potential in producing greater respect for the knowledge and skill of technically trained people and gifted students.

Whatever the broad implications may be, OM is at least sure of one thing: to the students at Monroe, the tougher the educational challenge, the more enthusiastic the response.

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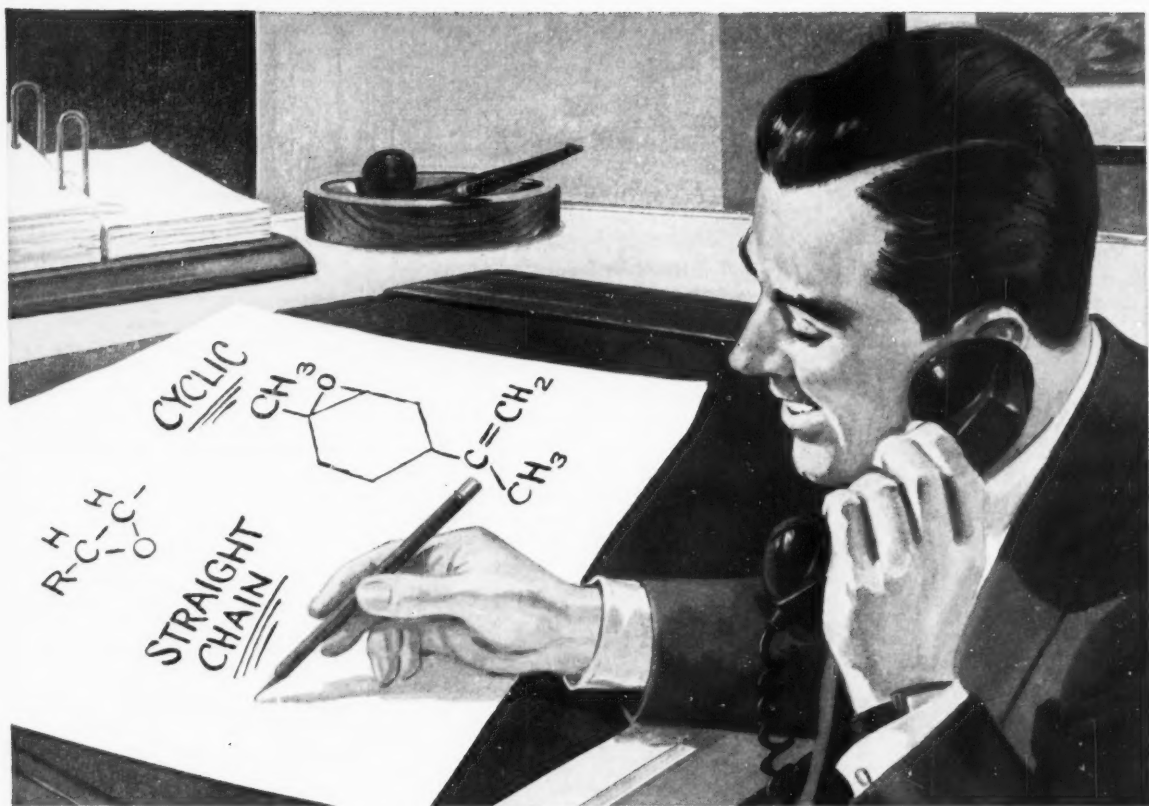
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Dodecene Oxide	90	<-10°	98°/3.5mm	0.836/25°
C ₁₄ -C ₁₈ Olefin Oxide	90	<-15°	168°/37mm	0.842/25°
Limonene Monoxide	85	<-60°	75°/10mm	0.929/20°
α -Pinene Oxide	90	<-60°	62°/10mm	0.963/20°

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LABOR

Between Two Unions: Charges of unfair labor practices have been filed by 17 laid-off boilermaker employees against Standard Oil Co. of Indiana. Charges stem from recent National Labor Relations Board certification of boilermakers as a separate bargaining unit—AFL-CIO Boilermakers Local 483—at the company's Wood, River, Ill., refinery.

Trouble started when the boilermakers, originally represented by an independent union known as Central States Petroleum Union, sought and got separate bargaining status from NLRB. But prior to this, while still members of CSPU, a number of them had been transferred to jobs as truck drivers and pipefitters, due to a shortage of work. Now, with Local 483 bargaining for the boilermakers, CSPU has become sole bargainer for the nonboilermakers. The transferred workers, who chose Local 483, were thus doing jobs governed by CSPU—and these were the ones who were laid off. At the same time, 17 other employees (CSPU members) were recalled from layoff status to fill these pipefitter and truck driver jobs.

Standard says the NLRB certification, which it fought, has put it in a "unique and virtually impossible situation"—[the company is now] expected to bargain with two competing unions for the same jobs."

LEGAL

Drug-Substitution Suit: The Upjohn Co. has won what it believes to be the first drug-substitution case (at the retail level) in which a court has ruled that money must be paid the manufacturer. The Kalamazoo, Mich., pharmaceutical manufacturer has been awarded \$5,000 as reimbursement for attorneys' fees resulting from its suit in U.S. district court (New York) against Pelham Pharmacy (New York City).

Federal Judge Edward Dimock held that by substituting other drugs in making up prescriptions specifying products made by Upjohn the retail pharmacy was guilty of trademark infringement and unfair competition. He said, in part, "... the offense ... is an extremely serious one, and I think that it is for the public good that damages which must be paid as

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2  RUBBER-LINED STEEL	Flanged Pipe 1 1/2 to 24" and up	Strength of steel, resistance of hard rubber. Soft-rubber inter-layer aids shock-resistance. Finest for alkalis, most inorganic acids, many organic acids, all salts.	Rubber-lined C.I. Gate, Darling Gate & Check Valves to 24". Diaphragm Valves to 6"	CE-52
3  ACE TEMPRON	Threaded Pipe 1 to 8"	Best anywhere for hot inorganic chemicals, acids, etc. to 260-275°F. Also wide variety of organics. Excellent rigidity.	— —	96-A
4  ACE RIVICLOR	Threaded Pipe 1/2 to 4"	Rigid PVC. Excellent aging. Good cold impact strength. Not affected by most inorganic acids and alkalis. Also good for many organics.	Diaphragm valves with Riviclor body 1/2 to 2"	CE-56
5  ACE PARIAN	Threaded Pipe 1/2 to 2"	Odorless, tasteless, rigid polyethylene, best for sub-zero uses. Best resistance of any plastic at room temp. except to acetic acid.	Diaphragm valves with Parian body, 1/2 to 2"	351
6  ACE HARD RUBBER	Threaded 1/2 to 4" Flanged 1 1/2 to 8"	The oldest, still tops. Extreme resistance to alkalis, inorganic acids, many organics, all salts. Ideal for chlorine, fluorine. Widest range of fittings.	Rubber-lined or plastic valves above. Also many plug valves, bibb cocks, etc.	CE-51
7  ACE SARAN	Threaded Pipe 1/2 to 4" Tubing 1/8 to 1 1/4"	Odorless, tasteless, general-purpose. Strong, takes high pressures. Not affected by most inorganic acids and alkalis; resistant to most organics.	Diaphragm Valve with Saran body 1/2 to 2". Also Saran-lined diaphragm valves to 6" and up	CE-58
8  ACE-FLEX	Flexible Tubing 1/8 to 1 1/4"	General-purpose transparent flexible tubing. Non-toxic, odorless, tasteless. Can steam sterilize. Excellent for chemicals.	Ace hard rubber plug valves, bibb cocks, etc.	66
9  SUPPLEX	Flexible Pipe 1/2 to 2"	Non-toxic flexible polyethylene pipe. Ideal for water distribution lines, drain lines, jet wells, etc. Resistance similar to Parian. Uses insert type fittings.	Diaphragm valves with Parian body, 1/2 to 2"	CE-57



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ADMINISTRATION

a result of such an offense should be substantial." The judge also entered judgment against the defendant for court costs and profits that were proved to have been made by substitution of drugs.

During the recently concluded four-day trial, evidence was introduced to show that on a number of occasions the pharmacy substituted other products in prescriptions presented for Upjohn's Cheracol, Cortef and Zymacap specialty products.

Tax Ruling on Mergers: In a decision of significance to merging corporations, the Wisconsin supreme court held recently that a corporation's losses of past years cannot be deducted for state tax purposes after that corporation is absorbed by another corporation in a merger.

The ruling, which appears to run counter to previous decisions on the subject, says, in effect, that the surviving corporation in a merger is not entitled to any of the tax carry-over privileges that the merged firms would have been able to use had the merger not taken place.

KEY CHANGES

J. E. Burrell, to general manager of operations, Columbia-Southern Chemical Corp. (Pittsburgh).

Ernest H. Volwiler, to board chairman; **George R. Cain**, to president and general manager; and **Edward A. Ravenscroft**, to executive vice-president; Abbott Laboratories (North Chicago).

Charles A. Lindsay, to vice-president and general manager, Molded Products Division, Stauffer Chemical Co. (New York).

W. L. Vega, to vice-president in charge of sales and advertising, American Plastics Corp., subsidiary of Heyden Newport Chemical Corp. (New York).

Joseph Regenstein, Jr., to board chairman; **E. T. Collinsworth, Jr.**, to president; and **John F. Kirk**, to director; Velsicol Chemical Corp. (Chicago).

Edward J. Babis, to general manager and executive vice-president, American Molding Powder and Chemical Corp. (Brooklyn, N.Y.).

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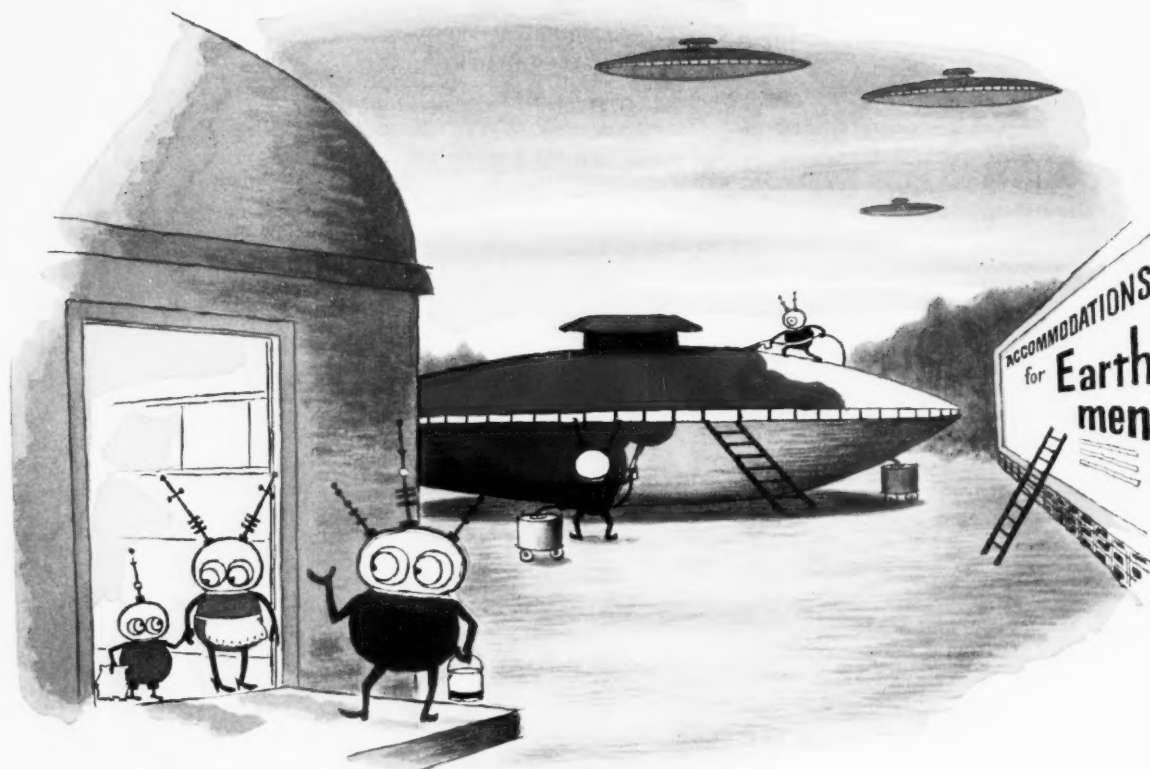
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"Daddy says n-Propyl Acetate not only saved us 10¢ a gallon, but it made a brighter lacquer for our sightseeing buses..."

Can you use a savings of up to 10¢ a gallon in your nitrocellulose lacquer formulations?

If you are now using a combination of ethyl and butyl acetate, by using n-Propyl Acetate as a replacement, you can save as much as a dime a gallon. You can pick up other important savings, too, by using n-Propyl Acetate in place of methyl isobutyl ketone, isobutyl acetate,

and mixtures of isopropyl acetate and n-butyl acetate.

And in hot spray lacquer formulae, Celanese n-Propyl Acetate permits maximum viscosity reduction combined with good flow and blush resistance...and at low cost.

Your Celanese Representative can give you complete details about this cost-saving medium boiling solvent.

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solvent

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Export Sales: Amcel Co., Inc., and Pan Amcel Co., Inc., 180 Madison Avenue, New York 16.

See Chemical Materials Catalog and Chemical Week Buyers' Guide for complete listing of Celanese Chemical Products

SPECIALTIES



Tougher, more glossy coating for appliances is the goal as . . .

CIL Fields a New Finish

"The most significant advance in metal-coating technology since the discovery of alkyd resins" is how Canadian Industries Ltd. describes its new organic protective coating for household appliances, Dynakote. It was unveiled last week with all the hoopla CIL could arrange—for with Dynakote, CIL is not only going after Canadian business; it's also invading the U.S. market.

Company officials told *CW* that they feel the new enamel has a Canadian sales potential of up to \$1.5 million, a U.K. market roughly twice as big and a U.S. potential somewhere in the neighborhood of \$10-20 million.

The company hasn't disclosed much technical data on the new enamel except to say that it's a new type of oil-free baking finish based on a cross-linked vinyl copolymer. It's a

self-priming material and is usually applied as a light flash-coat, followed two or three minutes later by a finish-coat. Just one bake—about 30 minutes at 300 F—is required.

CIL, one of the two biggest producers of paints in Canada, is entering the material in competition with vitreous and conventional alkyd-based enamels. In comparing its new coating with these finishes, the company claims that in lab tests Dynakote, after immersion for more than 1,000 hours in a 2% solution of a commercial detergent (at 180 F), showed no signs of blistering, loss of gloss or color change. In contrast, they say, alkyd/amino resin combinations in the same test normally show some failure at 100 hours, and at 200 hours they "fail dismally."

As for retaining gloss and color under high heat conditions, CIL says,

even the best coconut alkyd/nitrogen finishes are outclassed by Dynakote.

It's still too early to get objective comparisons of the newer enamels and the older materials, but one paint technician outside of CIL claims that yellowing may be a problem.

Earlier this month, the new material took its first steps toward high-volume markets when Frigidaire Products of Canada swung over to it as a finish for refrigerators, food freezers and some models of automatic washers and driers.

In moving into the voracious U.S. appliance finish market, CIL will employ licensing arrangements with well-known paint manufacturers and raw-materials suppliers. It has had no experience in paint marketing in the U.S.

A point the company is likely to stress in the high-labor-cost U.S. is the economy realized by using a material that can be quickly applied as a thin coat. Reason: on a gallon basis, the material will cost 15% more than the average synthetic appliance enamel. The sales pitch by CIL (or its licensees) will have to be aimed at the manufacturer, for there's little hope that the consumer will create a demand for a better finish. In fact, one large supplier of appliance coating said: "The public doesn't care what finish they get. We know because we asked them. The average person doesn't even know what kind of finish he has on the appliances he already owns."

But selling the manufacturer shouldn't be too tough if the new CIL product lives up to its billings. CIL claims that Dynakote looks like porcelain and combines alkyd-based enamels' ease of application and adherence with vitreous enamels' resistance to stain, detergents, grease and kitchen yellowing.

But U.S. manufacturers are readying their own hoopla. The Dynakote launching will undoubtedly trigger the release of several U.S. products that are now just about ready to go. Du Pont, for one, is reportedly ready to come out with a new appliance finish—not a vinyl, perhaps an acrylic—and is said to be already testing it with a major U.S. appliance maker. Apparently, the new-enamels party is just now beginning.

BAKER PROCESSING CHEMICALS...

*"...Baker chemicals
save us money
purely on values"*

THE GIANT MOLECULES OF RUBBER are among the most complex known, yet their very complexity gives rubber its remarkable properties. For example: ruggedness for drive belts, supple strength for hose, stretch for yarn, bounce for balls.

One of the great names in rubber is The B. F. Goodrich Company. To quote from their letter opposite: *"Over the years we have found that J. T. Baker Chemical Co. chemicals save us money purely on values. Shipment after shipment is uniform and in every way up to specifications."*

As Goodrich points out, chemicals must be thought of in terms of what they can do. May we suggest that you investigate what Baker high purity tonnage chemicals can do in *your* processing?

Perhaps—like Goodrich—you will find their purity and uniformity contribute to higher finished quality, lower cost per unit, fewer rejections. Industry after industry finds Baker high purity industrial chemicals economical to buy and use because they perform more predictably and efficiently under widely varying conditions.

And if you have delivery problems, let's quote Goodrich once more: *"We like the way you keep your business promises."*

Baker has quietly earned its reputation for dependability—and should we be honored with your business, we promise to help you safeguard your precious trademark as carefully as we safeguard our own.

J. T. Baker Chemical Co.

North Broad Street
Phillipsburg, New Jersey



PURITY BY THE TON

one of the guardians of this precious trademark



B.F. Goodrich

The B. F. Goodrich Company
AKRON, OHIO

November 20, 1957

Mr. W. F. Schumacher,
General Sales Manager
J. T. Baker Chemical Company
Phillipsburg, New Jersey

Dear Mr. Schumacher:

Buying values sometimes require a lot of study, especially when the products are chemicals used in our manufacturing.

We here at B. F. Goodrich have to think in terms of what these chemicals will do -- their uniformity, physically and chemically -- which ones give us the fewest processing rejections -- the highest finished quality which in turn adds up to the lowest cost per ton.

Over the years we have found that J. T. Baker Chemical Co. chemicals save us money purely on values. Shipment after shipment is uniform and in every way up to specifications.

We also like the way you keep your business promises. We can depend on your deliveries, and appreciate the high-type Baker salesmen in whom you have entrusted our business.

Sincerely yours,

THE B. F. GOODRICH COMPANY

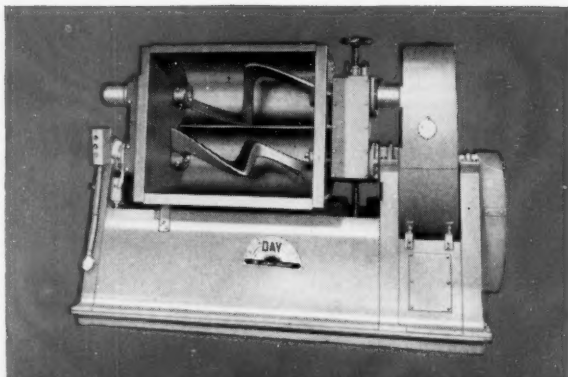
W. W. Scull
Director of Manufacturing Services

W. W. Scull
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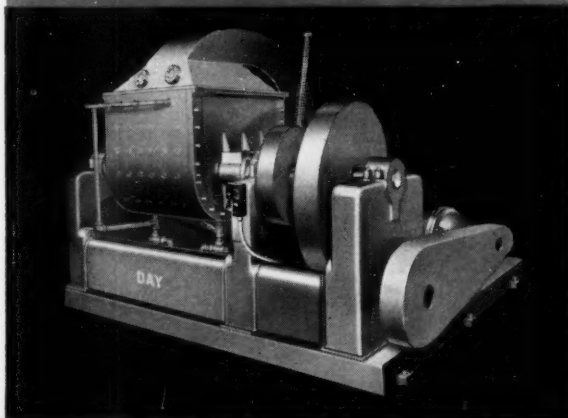


- FOR PRODUCTION USE

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The popularity of DAY mixers is proven by the high favor they enjoy in hundreds of plants in many industries. They are attractively priced and require a minimum of operation and maintenance expense. Make DAY your one source for all your process equipment requirements. New illustrated Bulletins on complete line of mixing, blending, milling, sifting equipment FREE on request.

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SPECIALTIES

Future for Fragrances

Sales of aerosol-packaged colognes and perfumes will total more than 40 million units in '59, predicts Donald Tuttle, Jr., sales manager of the Valve Division, Risdon Mfg. Co. (Naugatuck, Conn.). Aerosol colognes alone, he adds, should reach a sales volume of \$100 million in '59. And he foresees their sales further boosted several hundred percent within the next few years.

During '56, nearly 9 million units—about one-third of all colognes and perfumes sold in the U.S.—were aerosol-packaged. In '57, the total was probably 18 million units.

In '56, colognes alone, in conventional and aerosol packaging, accounted for nearly two-thirds of the fragrance industry's sales volume—\$58.3 million of a total \$91.2 million. Sales of aerosol-packaged perfumes were light until '57, when demand for them increased greatly.

Impulses vs. Plans

Despite the claims, mostly by package designers, that the American consumer is an easy mark for a dealer's handsomely packaged item, it appears that most consumers actually have their purchases in mind before they enter the store. That's the conclusion reached by a study recently published by *McCall's* magazine.

Analyzing 20,074 individual purchases of 27,468 units by a cross-section of consumers, *McCall's* found that among drugs and toiletries those purchases most often planned (by 85-95% of purchasers) are of home permanent kit refills, corn pads, cold tablets, gauze products, laxatives, mouthwashes and men's hair tonics.

Impulse purchases most frequent (25-30% of purchasers) are of creams, nail polish, lipstick, face powder and toothbrushes.

PRODUCTS

New in Aerosols: Next in aerosols—liquors and coffee. One liquor company is reportedly now working on aerosol whiskey, says a big advantage is that the containers can't be used again.

Concentrated coffee in an aerosol form is going into test markets within the next two months, and vanilla ex-



DON'T LET HIM PICK ON YOUR SHIRT!

The man of the house is the most severe critic of the average laundry or cleaner. And you've got to please him at what is probably his grumpiest moment. Even if he buys the finest quality shirt, he won't stay happy if your starch-work doesn't meet his standards. It will if you use H.I.S.*, the wheat-quality Huron Instant Starch that requires no cooking, or Velvet Rainbow®, the standard of excellence in wheat starch. No matter what your specific requirements, one or the other of these two fine starches will meet them to a "T".

New H.I.S. is easy to use; just add starch during the last rinse, sour, or bluing operation, then iron

shirts as usual. Compare the quality of H.I.S. or Velvet Rainbow starch-work with other starches; notice the even, "just right" finish they impart and see how economical they are to use. Order a trial drum and judge for yourself. Complete directions for use packed in every drum.

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VH5B-3

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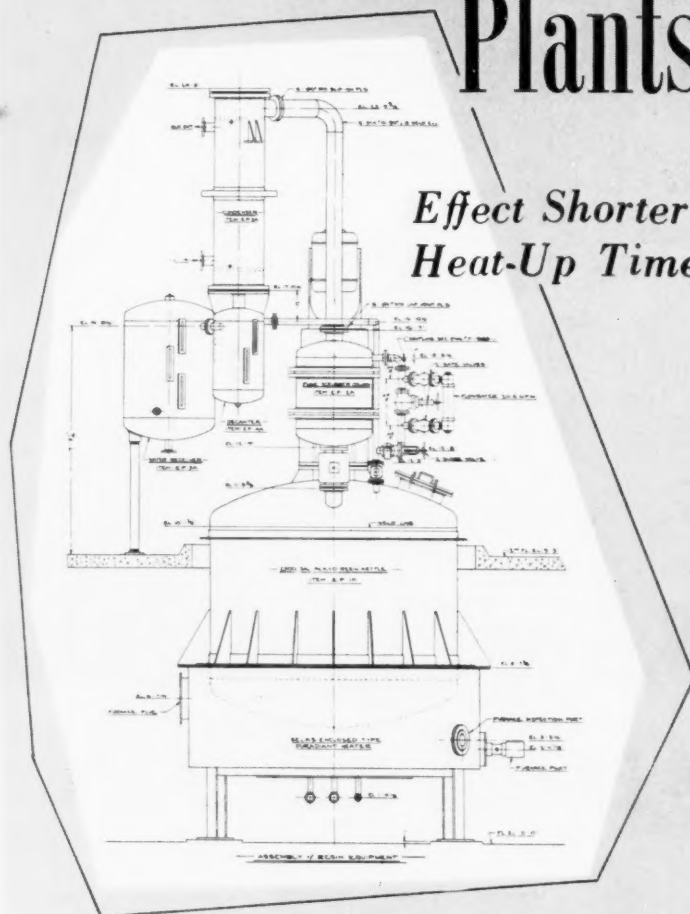


HURON INSTANT STARCH... the first instant developed for the professional laundry and dry cleaner.



VELVET RAINBOW STARCH... guaranteed 50% velvet wheat—famous for quality for over 35 years.

New Alkyd Resin Plants



*Effect Shorter
Heat-Up Time*

This assembly drawing shows the principal processing equipment of just one type of resin plant engineered, designed and constructed by I*P*E. Short heat-up time is guaranteed for specific formulations. Accurate temperature control is assured.

For further details on resin plants, or on any chemical unit you may be considering, contact I*P*E's Process Plants Division, Dept. A.



INDUSTRIAL PROCESS ENGINEERS

12 LISTER AVENUE • NEWARK 5, N. J.

SPECIALTIES

tract and liquid detergents will be ready for test marketing this year. All these products will use nitrogen as the propellant.

Lube Muds: Gulf Oil Corp. has recently developed oil well lubricating muds (fluids circulated through the drill hole to remove cuttings, with extreme pressure lubricating properties. The new muds are said to more than double the life of drill bits and to reduce by 12½-25% the time it takes to drill deep wells.

Polyethylene Bottles: Owens-Illinois Glass Co. is entering the plastic bottle field this spring with high-density polyethylene containers. Says Carl R. Megowen, president of Owens-Illinois: "Initial purchasers of the new plastic containers, produced at O-I's Glassboro, N.J., plant, probably will be makers of household and chemical items such as detergents, waxes, polishes and related products." The bottles will be made in capacities of 12 to 32 oz.

Cheaper Wood Finishing: A new machine and resin coating process that is said to impart a smooth, glossy, mar-resistant finish to any type of wood—at a rate of 90 to 120 linear ft./minute—is ready for licensing to wood-products manufacturers. Called Super Microseal, the new technique is reported to cut by at least 75% the cost of finishing doors, furniture parts, cabinets, architectural panels, house trailers and boat parts. Satin Surfaces, Inc., subsidiary of General Plywood Corp., developed the mechanics of the process, and Reichhold Chemicals Inc., the synthetic resin. Cost of adopting the new technique: \$30,000/mill.

Adds Chemicals: The City Chemical Corp. is now producing pilot-plant quantities of thallium perchlorate, aluminum ferrocyanide, magnesium ammonium sulfate, sodium glycolate and aluminum citrate.

Rigid Polyethylene: Celanese Corp. of America has just added a fourth member to its Fortiflex series of polyethylenes. Known as Fortiflex A-250 (melt index 2.5), the resin is designed for intermediate-size injection-molded products. Celanese says A-250 is suitable for housewares, toys, protective helmets and industrial components.

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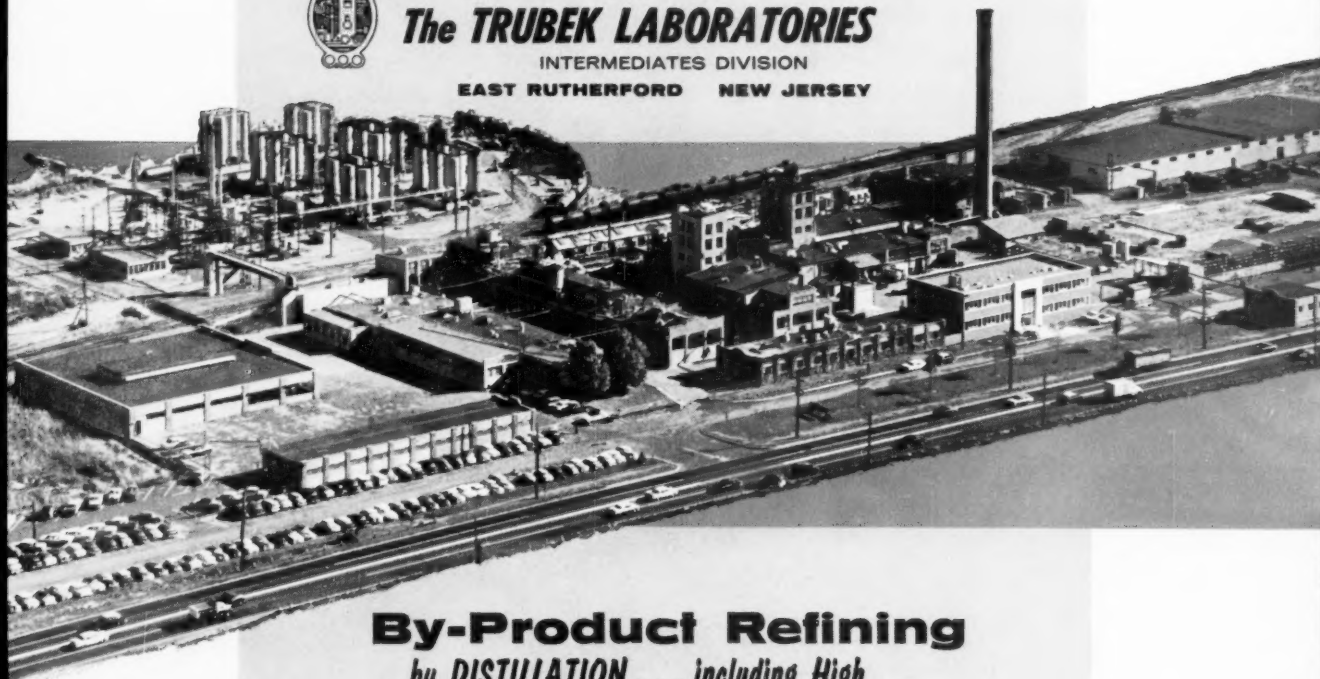
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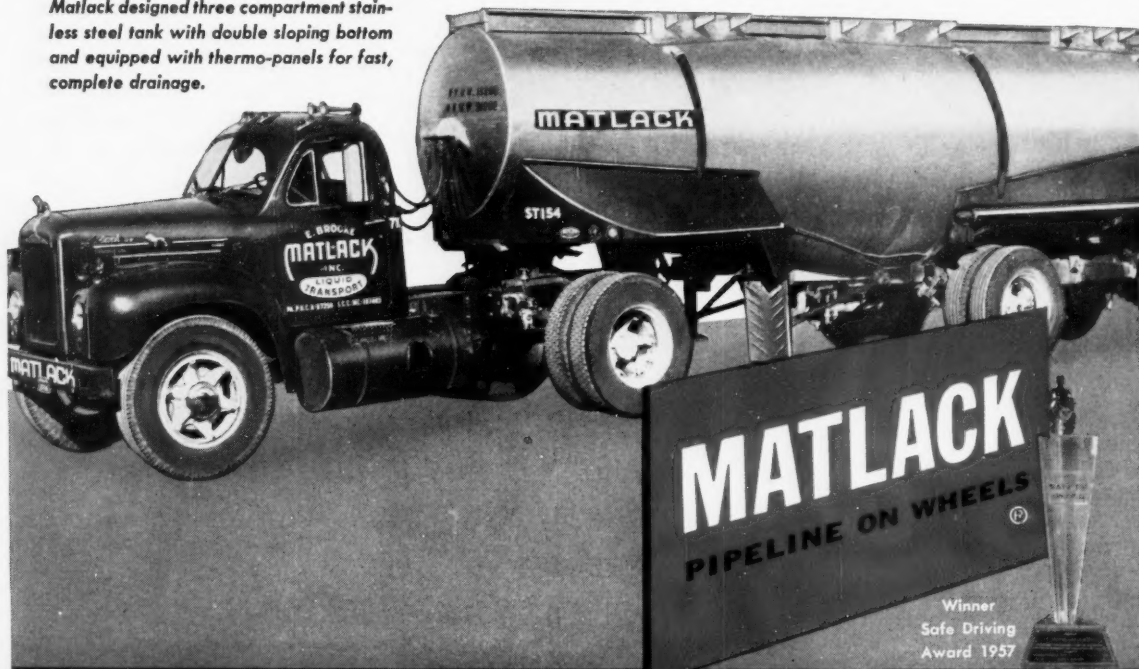
Establishing your own fleet? Adding new units to your present fleet? Check the advantages of letting Matlack haul your acids, volatiles, resins, plasticizers and all types of chemicals.

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PRODUCTION



Rockwell's twist in valve maintenance is a traveling training session for chemical plant personnel.

Lesson in Lengthening Equipment Life

Next week in the Louisville, Ky., area, scenes like the one pictured above will be repeated at least twice daily as maintenance veterans and novices at many CPI plants take time out to go to school. For plant management, the subject of study—care and maintenance of the lubricated plug valve—offers a special lesson that many equipment makers have been extolling for quite a few years.

Failures of even the simplest piece of equipment, assert the equipment men, are sometimes the result of a lack of education rather than a basic fault of the equipment or the men who service it. And the Louisville course is part of a nationwide educational program begun last fall by Rockwell Mfg. Co. (Pittsburgh) to minimize such ignorance-caused failures of its lubricated valves. In addition, the course provides maintenance men with information needed to make relatively minor on-the-spot repairs.

From the plant's standpoint, it's a time-saver, cuts out many previously needed manufacturers' service calls.

And for Rockwell, the elimination of unnecessary service calls will gain it cost savings as well as the goodwill of customers.

Rockwell's procedure is to visit an area, offer to conduct the course at plants there that have a number of lubricated plug valves. Areas already visited: Borger, Corpus Christi, Houston, Beaumont, Port Arthur, Orange, Tex., and Chicago.*

At each plant, Rockwell holds as many sessions of the course as are necessary to allow personnel from all shifts to attend.

All Levels Included: A feature of the Rockwell course: anyone who could conceivably benefit from it is enrolled. Thus, engineers, operating and maintenance supervisors, operators, and maintenance men such as valve repair men and pipe fitters, all hear the story directly.

Every participant is given a 180-page manual, which reviews the prin-

*Plants visited include one or more of those of Standard Oil of Indiana, Sinclair Refining Co., Socony Mobil Oil Co., Reynolds Metals, Inc., Columbia-Southern Chemical Corp., Delhi Taylor Oil Corp., Phillips Petroleum Co.

ciples and basic types of valves, pays special attention to lubricated plug valves. Some of the topics: evolution of the stopcock principle, basic types of valves, Pascal's law of hydraulic pressure, mechanical characteristics of lubricated plug valves. The manual covers lubrication systems in detail, gives proper servicing procedures for each type and instructions for disassembly, checking and reassembly.

Another teaching aid used in the recent courses: a color-sound movie, "The Story of a Valve."

"Teachers" are Rockwell district sales managers and engineers, assisted by experts from the company's Pittsburgh headquarters.

Equipment Lessons: Other manufacturers have conducted similar educational courses. Instrument makers, particularly, have been foremost in sponsoring courses for engineers—they are generally given on the instrument maker's premises. Moreover, some heavy equipment companies have home-based education programs. Case in point: the course offered by

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PRODUCTION

Pfadtler Co., division of Pfadtler Permutit Inc. Twenty-four plants were represented at its last seminar on corrosion-resistant equipment, held at its Rochester, N.Y., headquarters.

Another program is the Productive Maintenance Forum of General Electric Co. Featuring a color-sound film and a series of talks, the GE forum is offered at various company plants, as is Rockwell's program. GE aims at the administrative and supervisory level; in this respect, the forum differs from the Rockwell course.

It's Rockwell's view that by taking the course to the equipment user, it is able to increase its coverage of plant personnel. And while the moving of "props" for its "school" is no easy task, Rockwell is convinced that the payoff, in better service from its valves, is well worth the trouble.

'Eye' for Hot Spots

Velotron, Inc. (New York), is now marketing a new radiant-heat pyrometer-control system claimed to be more accurate and faster-acting than any conventional unit's designed for temperatures below 750 F.

By combining two pieces of existing equipment—one imported from Germany—Velotron has come up with a ready-to-plug-in unit that will measure the actual surface temperature of a moving or stationary object with an accuracy of ± 1 F (or 0.25% of scale), will operate a control system within 1 second.

Velotron attributes the accuracy of the system—the Velotron multifrequency radiation pyrometer system—to its ability to measure radiant heat. It thus avoids drawbacks of other sys-



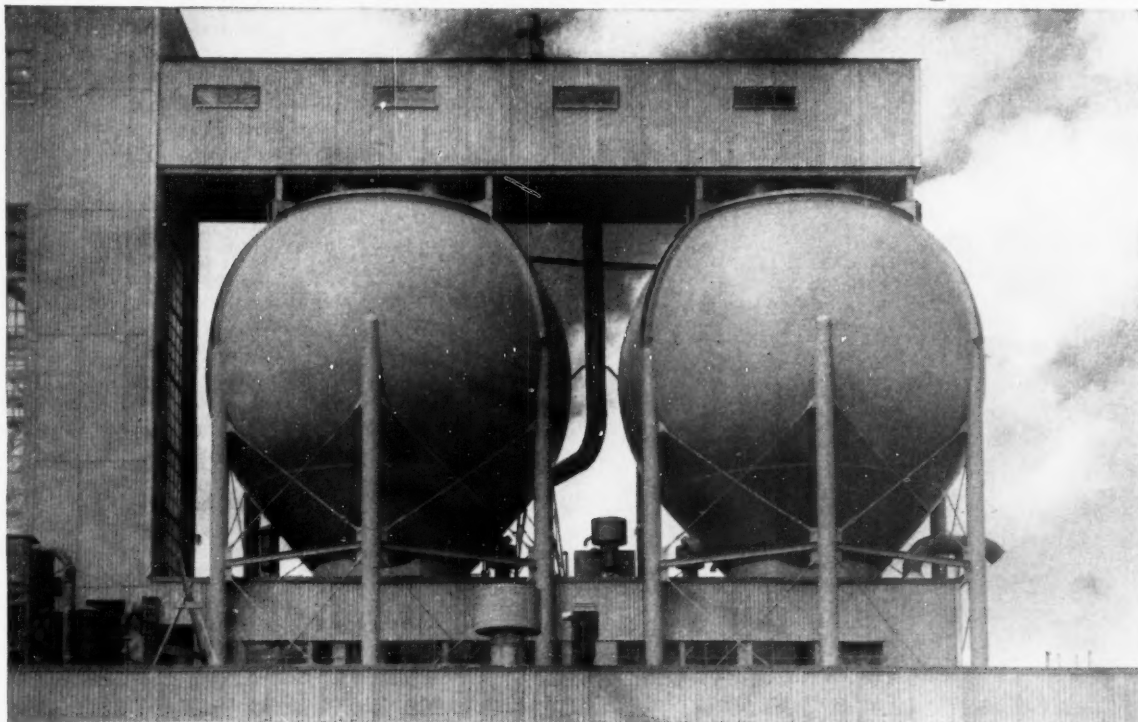
Trapping Odors in a Plastic Bag

An accumulation of early spring rains on its upper surface makes a temporary two-unit storage container out of U.S. Industrial Chemicals Co.'s waste-water settling tank. The bag, at the firm's Ashtabula, O., zirconium plant, is designed to prevent waste-water odors from polluting the air. Canton Containers, Inc. (Canton, O.), constructed the 900,000-gal. storage

bag of polyethylene, using special portable heat-sealing equipment.

The bag's bottom layer lines an 8-ft.-deep, 100x150-ft. pit. Its top layer covers waste water that has been pumped in for solids-settling. Eventually, rainwater on the top layer seeps into the bag through small holes in the plastic; these holes are vents for gas buildups in the bag.

The Case of the Airborne Conispheres:



Why Linde wanted them . . . How CB&I designed and built them

In order to keep a ready and free-flowing supply of calcium carbide available for generation into acetylene, the Linde Company specified that these two 500-ton capacity Conispheres* be installed on the roof of their Montague, Michigan, plant. In order to overcome a specific set of problems it was necessary for CB&I to incorporate special features into their design and construction. Here's how it was done:

Problem: *Insure safe, continuous operation.*

Solution: (1) Structures were designed to meet a specified emergency condition at an increased stress level, as well as to meet normal service conditions at normal stress levels in all parts not governed by explosion conditions. (2) A series of six safety outlets vent tanks upward. (3) Heavy baffle plates were suspended inside the tanks to control flow of carbide.

Problem: *Tanks must support superimposed load of gallery and feed belt equipment.*

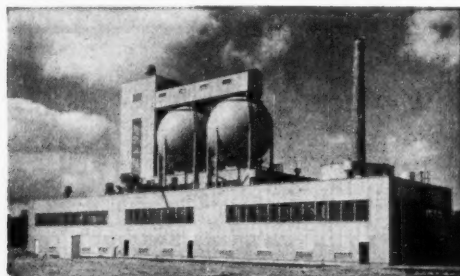
Solution: Special framing distributes load to supporting columns of the tanks.

Problem: *Tanks must be mounted on sloping roof.*

Solution: Three of the supporting columns are longer than others to compensate for roof plane.

Fully coordinated facilities for the design, fabrication and erection of standard or special steel plate structures permits CB&I to work to the most exacting requirements. . . . For this reason industry leaders call on CB&I for the tough jobs and rely on the quality of workmanship that goes into any CB&I built structure. A new booklet describes CB&I FIELD SERVICES . . . write our nearest office.

At Montague, Michigan, Linde is one of three major companies combining their talents and mass production facilities to produce DuPont Neoprene. Linde Company is a division of Union Carbide Corporation.



*A Conisphere is a Hortonsphere® designed with conical bottom outlet.

E55C

Chicago Bridge & Iron Company

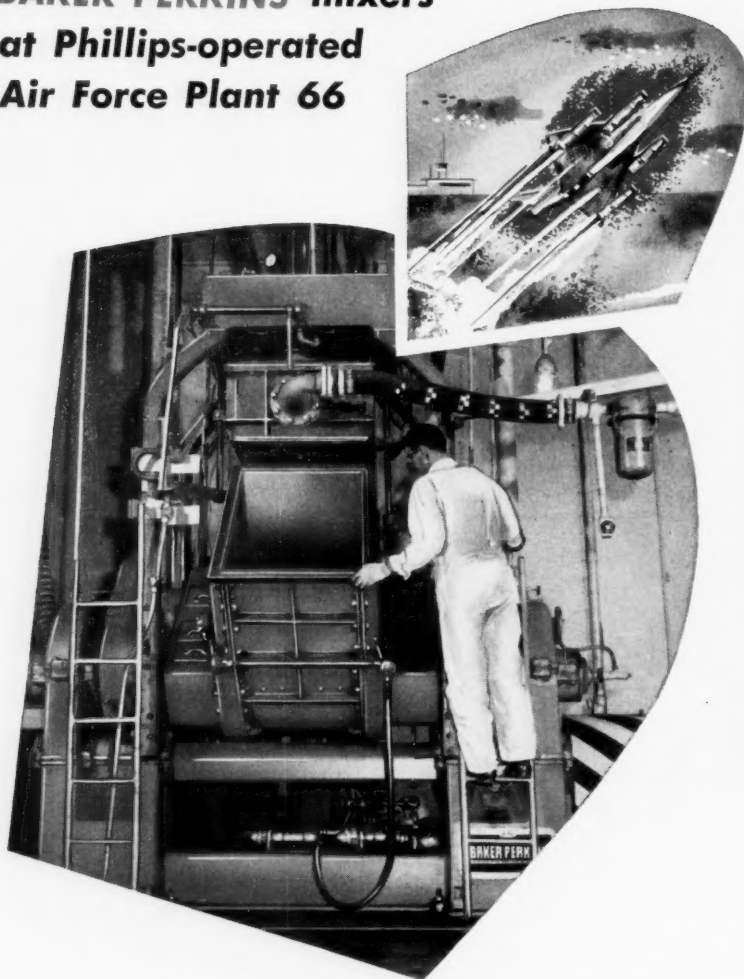
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**Jato* motor fuel is
accurately blended in
BAKER PERKINS mixers
at Phillips-operated
Air Force Plant 66**



Jet-assisted-takeoffs* (JATO) enable heavy aircraft to become airborne quickly and safely from limited length areas. For the precise task of mixing all-important rocket fuel used in these powerful JATO units, Phillips Petroleum Company, McGregor, Texas, uses dependable Baker Perkins Size 15 Dispersion Mixers.

A combination of vacuum-and-compression cover effectively seals the 15 VUEM2 B-P mixer, which is completely jacketed. Each of these machines has a working capacity of 100 gallons and a total capacity of 200 gallons. The 150 hp drive motor efficiently powers these units thru hour after hour of reliable, trouble-free operation.

This is just one of the many processes to which B-P high-performance mixers are instantly applicable. Write for the complete Baker Perkins catalog . . . or consult your experienced B-P sales engineer.

BAKER PERKINS INC.

CHEMICAL MACHINERY DIVISION • SAGINAW, MICHIGAN

PRODUCTION

tems: a thermocouple in contact with a moving object may give inaccurate readings because of frictional heat; many other systems measure the temperature of the medium surrounding the object rather than the actual surface temperature.

Velotron's new unit consists of:

- An Ardonox radiation pyrometer (or "heat eye") developed by Siemens in Germany.
- A specially calibrated potentiometer recorder-controller manufactured by Wheelco Instrument Division of Barber-Colman Co.

The heat eye consists of a parabolic mirror that focuses onto a thermopile the full spectral range of radiation from the object whose temperature is being measured. The Wheelco instrument translates the current generated into a direct temperature reading and also actuates the control system. Depending on the thermopile used, the unit is useful in a range from below 0 to about 750 F.

Velotron suggests the detector-and-control for many applications in the process industries. It can be used as a fire alarm and control arrangement; the heat eye would detect abnormal temperatures and the control unit would trigger an extinguishing system (and even stop the flow of process material where necessary).

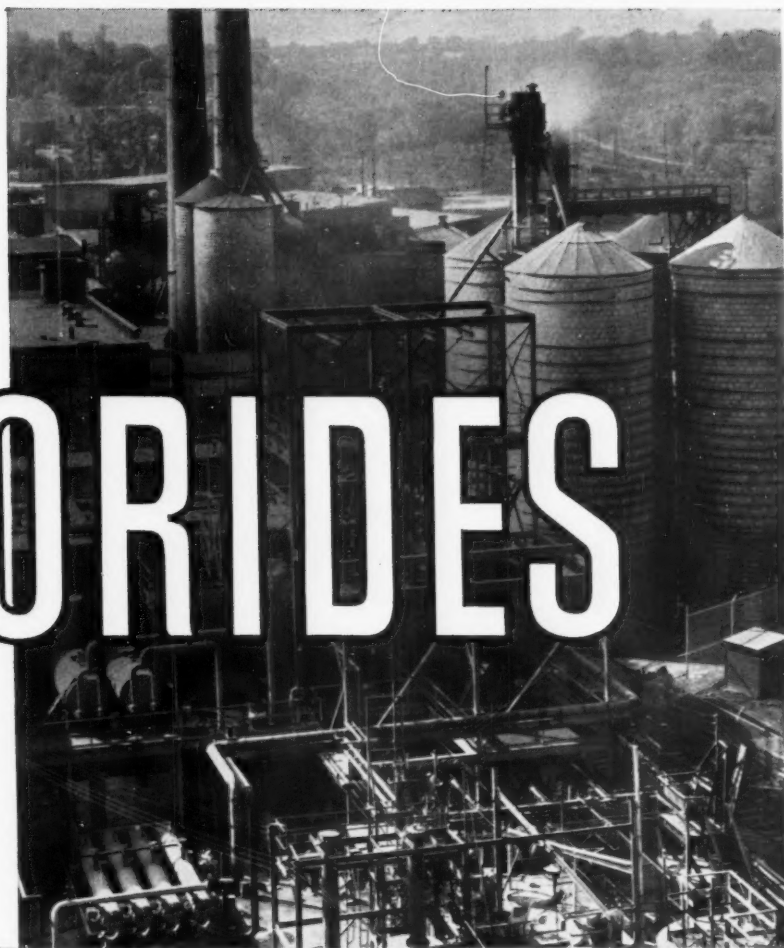
A multifrequency radiation detector would be applicable where radiant heaters or driers are being used, because there is a wide variation in the wave lengths of heat best suited for drying various materials. Water, for example, best absorbs heat at wave lengths higher than those emitted by conventional high-temperature heat sources—in such cases, heaters that would give higher wave lengths would be more efficient. Detection of the heat not absorbed by the material being dried could be a quality-control measure.

Velotron stresses that it will not sell the heat eye separately for experimental work; it will, however, design special systems incorporating the device to meet customer specifications. Possibilities include use of the detector with a simple milliammeter for roving detection of hot spots in equipment and insulated pipelines.

Whatever the specific application, the Velotron unit should help cover the range of relatively low temperatures where conventional pyrometer devices do not perform at their best.

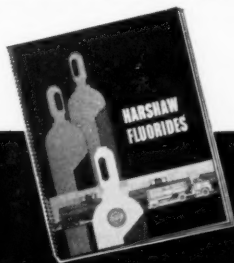
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BORON TRIFLUORIDE HYDROFLUORIC ACID ANHYDROUS...AQUEOUS

and a long list of other
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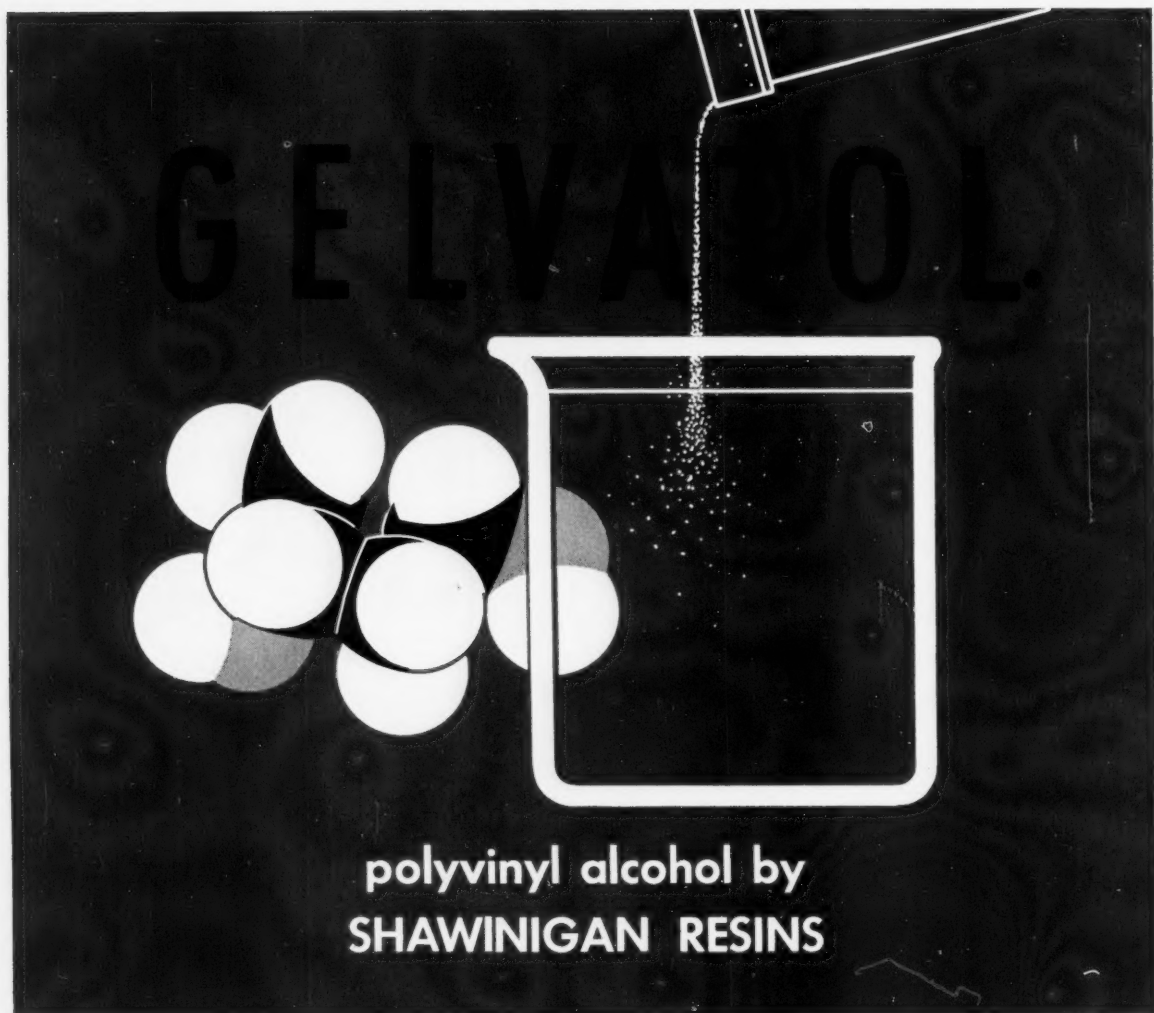
Ammonium Bifluoride	Hydrofluoric Acid Aqueous
Ammonium Fluoborate	Hydrofluosilicic Acid
Antimony Trifluoride Sublimed	Lead Fluoborate
Barium Fluoride	Metallic Fluoborates
Bismuth Fluoride	Nickel Fluoborate
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Technology

Newsletter

CHEMICAL WEEK

May 3, 1958

A relatively new method of forming fibers will be spotlighted at a Textile Research Institute (Princeton, N. J.) seminar next week. The process is called "reaction spinning" by Herbert Pohl, researcher at Princeton University's plastics laboratory, who has used it to make silicone, phenol-formaldehyde, polyacrylic acid, polystyrene, and polyurethane fibers.

Pohl uses chemical reaction to firm up the fiber after it is extruded through a spinneret. (In contrast, nylon is spun from melted resin; cellulose acetate, from an acetone solution.) Incompletely polymerized or incompletely solubilized polymer is forced through the spinneret at a rate, temperature, etc., that causes it to set to a solid or semisolid fiber. This is then taken up on a windup package where further reaction takes place. Pohl's goal: novel fibers featuring high insolubility or high temperature stability.

Just how fundamental CPI research can get was illustrated this week at a meeting of the New York Academy of Sciences. John Grebe, director of Dow's nuclear and basic research, unveiled a new periodic table of fundamental particles—the electron, positron, meson, neutron, proton and hyperon—similar to the familiar periodic table of the elements. Grebe's basic particle is the electron (negative charge) or positron (positive charge).

He suggests that all other, larger particles are made up of multiples or combinations of the two. His thesis: high-frequency electromagnetic forces hold together the fundamental particles of the atom. These are at least 28 in number, possess varying masses, in some instances are related in ratios almost as simple as two, three and four.

Lyle Borst, chairman of the academy's section of mathematics and engineering, calls Grebe's achievement "a tremendous leap into the unknown." If confirmed, it may help explain why gravity cannot be shielded and yet operates with the law of electromagnetic attraction, may also shed further light on the conversion of energy into matter and vice versa.

Another lung cancer-cigarette smoking link was forged this week by Drs. Ernest Wynder, Sloan-Kettering Institute for Cancer Research (New York), and Frank Lemon, College of Medical Evangelists in Loma Linda, Calif. Their finding: lung cancer is only 10% as frequent and heart attacks 60% as frequent in a group of nonsmoking males as in the general male population.

Wynder and Lemon analyzed the hospital records of 8,692 patients with various types of cancer, heart attacks (myocardial infarction) and coronary disease in eight Seventh Day Adventist hospitals. Of these patients, 564 were Seventh Day Adventists. Only one had lung cancer, a

Technology

Newsletter

(Continued)

63-year-old who—unlike most members of his sect—had been a regular one-pack-a-day smoker for 25 years before joining the church.

Most of the men in both groups lived in smog-harried Los Angeles, indicating that air pollution is probably not a major factor in lung cancer development.

Fifteen-year-old butabarbital sodium is better than tranquilizers recently introduced for eliminating anxiety and tension in persons having no intrinsic mental illness, according to Dr. Arthur J. Grossman, of New York Medical College. He reported on the comparative study of calming drugs during just-completed sessions of the American Society for Pharmacology and Therapeutics at Philadelphia's Convention Hall.

Molecular sieves are the crux of new curing agents (for plastics, rubber, etc.) that Linde Co., division of Union Carbide, will commence marketing next week. Accelerators or catalysts are bound in the sieves (*CW Technology Newsletter*, March 29) until freed by heating—thereby making possible the safe use of normally volatile, toxic and flammable accelerators and catalysts. Normally, the sieves are used for adsorption; in this case, entrained chemicals are desorbed. Linde has tried hundreds of chemicals, may wind up with 20-25 commercial chemical-loaded sieves. At the start, it will offer sieves containing piperidine, di-N-butyl amine, di-tert-butyl peroxide (which Linde uses for curing its silicone elastomers), catechol, or diethylthiourea.

A type of edible mushroom is being grown in 72 hours—in a secret chemical nutrient—at the Food Division of Yorktown Products Corp. (New York). Normally, mushrooms take 60 days to reach commercial size from spore or seed. Battelle Memorial Institute (Columbus, O.) did the research on the new mushroom, christened "Yorktown Morel," which is said to possess "exquisite" flavor and high nutritional value. The mushroom is stemless, can be cooked, dried, powdered, canned, or frozen without loss of flavor or vitamin content. Commercial Solvents Corp. (Terre Haute, Ind.) is working with Yorktown on commercial production. The newcomer could quickly snare a tidy share of the 100-million-lb./year U. S. mushroom market.

Yorktown chemists also see a possible bonus from this research. They're attempting to isolate a waste nutrient liquor constituent that is reputed to be ten times more powerful than gibberellic acid as a plant growth stimulant.

American Cyanamid is out with a new vaccine to prevent botulism in mink. It's expected to cut recent heavy losses among ranch mink caused by consumption of contaminated meat.



Ross Hastie, vice president,
Hilton-Davis
Chemical Company,
Cincinnati, Ohio

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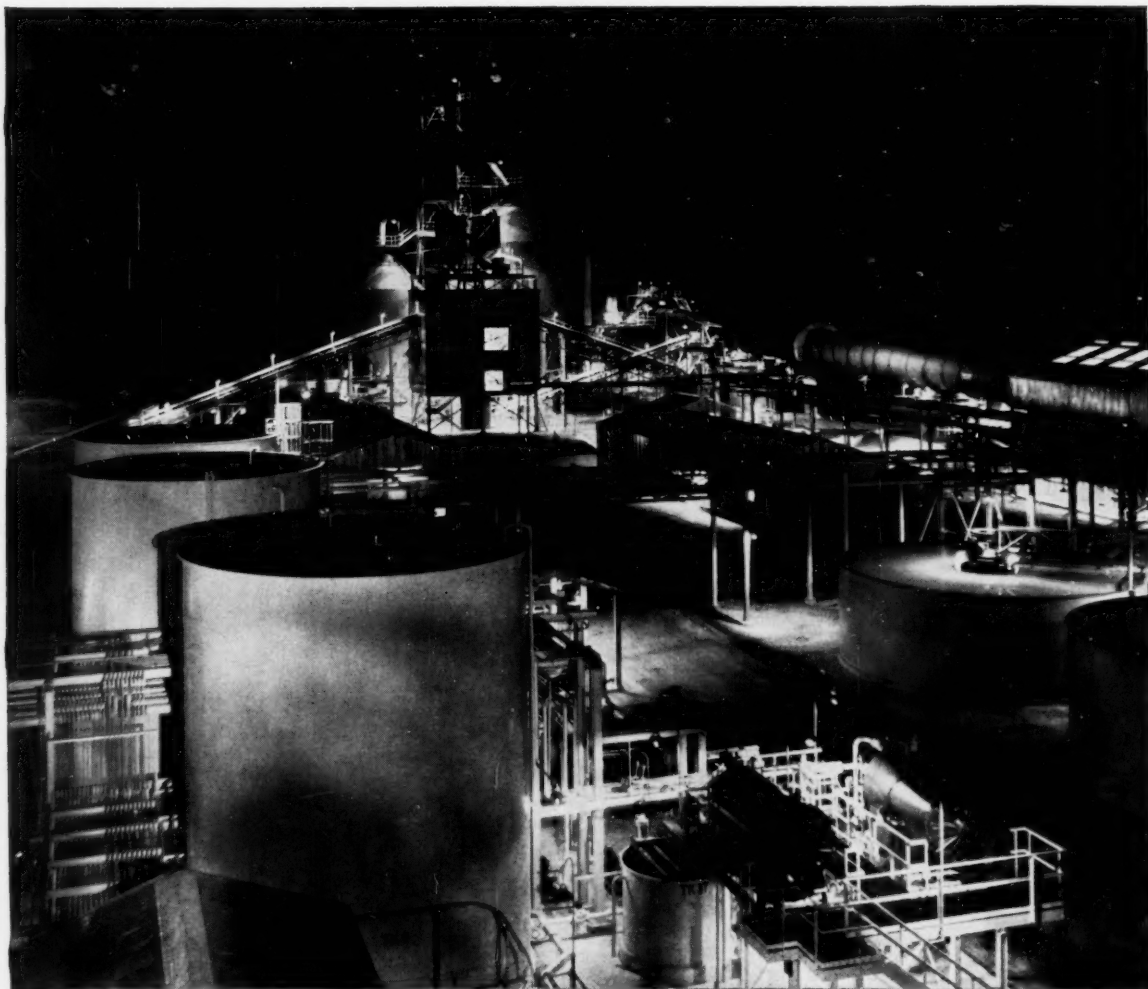
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56 Tanks for First Large Plant to Produce Lithium Hydroxide from Lepidolite Ore

In fifteen short years, many uses have been found for lithium and its compounds—as a coolant for nuclear reactors, as an all-purpose lubricant, as a catalyst in polymerization, as a factor in making rocket fuel, to name a few.

Large quantities of lithium hydroxide are now assured by the construction of the first commercial plant for producing the compound from lepidolite ore. This new plant was designed and built by C. F. Braun and Co. for American Lithium Chemicals, Inc., at San Antonio, Texas, a subsidiary of American Potash & Chemical Corporation. All 56 tanks, of carbon steel, from the largest of 635,000

gallons to the smallest of 450 gallons, were fabricated and erected by Graver.

This installation is another example of Graver's capacity and century-long experience in fabricating the tankage requirements for complete plants. Similarly, Graver's nationwide facilities are frequently called upon to fabricate multiple-unit installations of processing equipment and pressure vessels for the chemical, petrochemical, petroleum and nuclear industries.

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ENGINEERING



CW PHOTO—HAYWOOD STU

Chemical executives (see box below) from near and abroad meet for engineering parley in Montreal.

Taking International View of Engineering

Some 900 chemical engineers and executives gathered in Montreal last week for the joint Canadian-U.S. engineering conference sponsored by AIChE and the Chemical Institute of Canada. Added international effect: top-management speakers from leading European chemical companies, two Russian scientists who talked about industrial and educational advancement in the U.S.S.R.

One of the conference highlights was the three-part session on the chemical industry in Europe. R. Holroyd, deputy chairman of Imperial Chemical Industries Ltd. (London), analyzed the factors responsible for the rapid growth of Britain's chemical industry. From '48 to '56, said Holroyd, production by the chemical and allied trades increased 85%—roughly twice as fast as other British industry. This, he added, was achieved with only a 2% annual increase in personnel. A major factor behind this

growth record, he pointed out, has been the increase in mechanization and instrumentation that pushed productivity of chemical employees up to 50% above the average for all British industries.

J. J. Desportes, president-general manager of Etablissements Kuhlmann (Paris), summarized the progress of France's chemical industry, emphasized the importance of such recent developments as the rapid buildup of the French petrochemical industry in the last five years; last year's startup

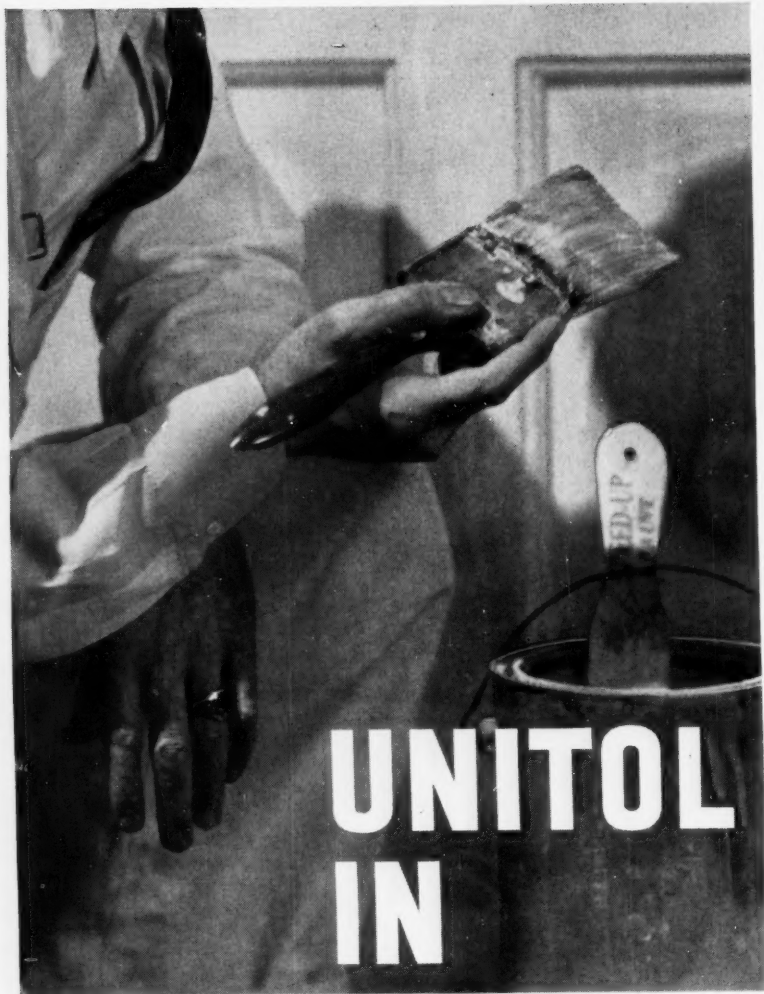
of large-scale sulfur production from natural gas (at Lacq); new production facilities for nuclear fuels and materials of construction.

In atomic energy programs, said Desportes, France has adopted a policy of "prudence and caution." Reason: with record coal production (59 million tons in '57) fast approaching the effective 65-million-ton/year limit and the potential of low-cost electrical energy from Lacq natural gas, there's no immediate threat of energy shortages in France. Nevertheless, France

Who's in the Picture

L. to r.: ICI's Holroyd; M. E. Klee, director of Hoechst's U.S. office; J. P. Beaulieu, Minister of Industry and Commerce for Quebec; R. S. Jane, president of Shawinigan Chemicals Ltd., engineering consultant J. R. Donald; Russian visitors Sergej Filipytchev and

Prof. Nikolai Melnikov; Montreal Mayor Sarto Fournier; Conference Chairman H. R. L. Streight; Hoechst's Otto Horn and Karl Winnacker; Kuhlmann's J. J. Desportes; CIC Secretary T. H. G. Michael (background); Russian Ambassador to Canada Dimitri Chuvachin.



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ENGINEERING

plans to bring a new nuclear reactor into operation every 18 months, has set uranium production goals of 500 tons in '58, 1,000 tons in '61, and 3,000 by '75. Other nuclear materials now—or soon to be—produced in France: nuclear-purity graphite, beryllium oxide and heavy-water moderators; beryllium, zirconium, ductile niobium, vanadium, molybdenum and chromium metals; uranium-235 (*CW Technology Newsletter*, April 19).

German Comeback: Despite the West German chemical industry's remarkable recovery from the total economic collapse of '45, said Prof. Karl Winnacker, president of Farbwerke Hoechst, AG. (Frankfort), it's unlikely to regain the powerful economic position it once held.

West Germany, like France, has high hopes for its petrochemicals industry. But the relatively small size of German petroleum refineries and their remote location from large chemical production centers have not favored the development of large-scale petrochemical plants. Thus, West Germany's chemical industry has had to adopt some foreign processes and to develop new methods of converting petroleum into needed olefins and by-products that can be utilized by chemical plants.

West Germany's chemical industry is counting heavily on automation to help solve its manpower problems. Future scientific and technical development, said Winnacker, is a question of manpower. Labor is in short supply and is therefore expensive. The economic fusion of Western Europe into a larger "common market" offers tremendous opportunities. But the nation's manufacturers shall be able to stay competitive in the European chemical industry, said Winnacker, only if they continuously rationalize production to compensate for the lack of raw materials and manpower.

The European common market, asserted Prof. Giulio Natta, of the Polytechnic Institute of Milan, Italy, is a boon to national and international competition and a spur to the Italian chemical industry's research efforts. Present worth of Italian chemical production is about 1,160 million lira—almost triple its prewar value. Important keys to this growth, said Natta, have been Italy's early switch from coal to oil and natural gas as sources of chemical raw materials,



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CHARLES M. FIFE, *Manager*
Area Development Department



WEST PENN POWER, Area Development Department, Cabin Hill, Greensburg, Pennsylvania

CW-2

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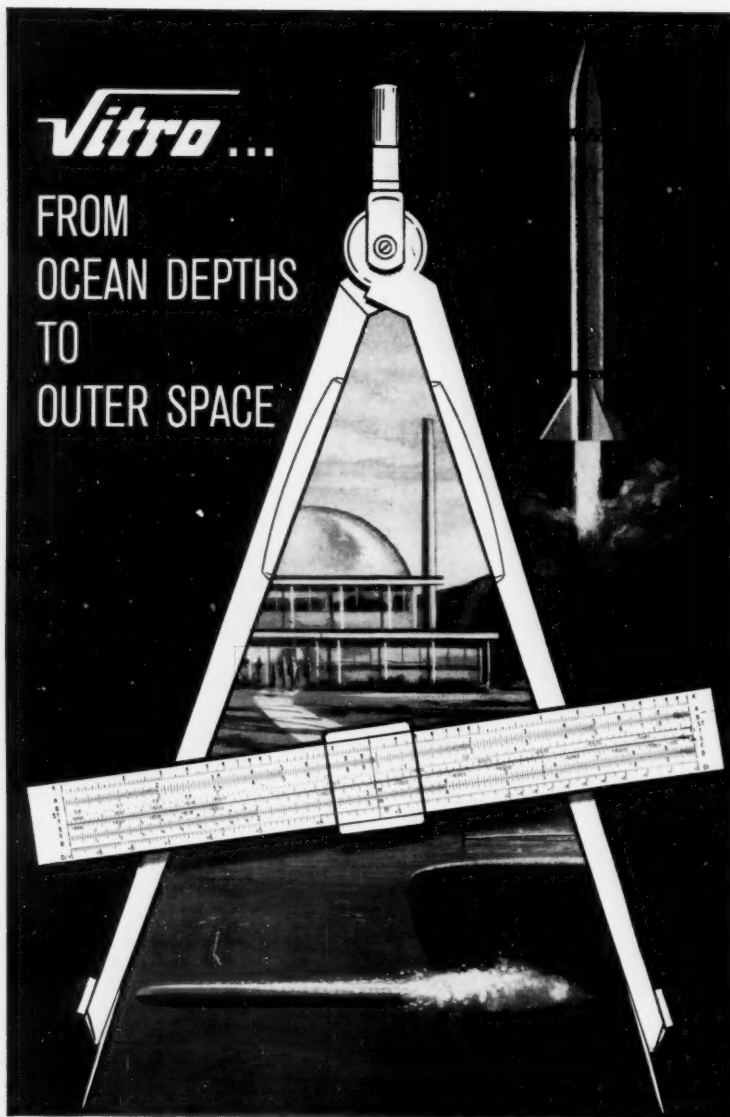
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ENGINEERING

and recent Italian discoveries (Natta's own polypropylene is a good example) and developments that open "enormous possibilities" to the chemical industry.

Belgium's Paul Ferrero, director of research at Societe Carbo Chimique (Petre, Belgium), summed up the status of the chemical industry in the Benelux countries, credited the industry's rapid progress to the high quality of personnel available, to the build-up of coal chemicals and, more recently, petrochemicals as a source of intermediate materials.

Russian Progress: Topping the session on foreign industry was the Russian presentation. Some 1,400 guests heard talks on industry and education, viewed films on Russia's atomic energy program and Moscow University's Palace of Science.

Prof. Nikolai Melnikov, head of the Moscow Institute of Fertilizers and Insecto-Fungicides, introduced (in Russian) a paper on trends in the development of the chemical industry in the U.S.S.R. His talk (delivered in English by Standard Oil of Indiana's J. G. Tolpin) cited the Sputnik launchings as one indication of progress, commented on "modern rocketry's heavy demands on the chemical industry." Volume output of the U.S.S.R. chemical industry in '56, Melnikov reported, was 4.7 times that of the prewar (1940) level. Some specific gains over this period: artificial fibers, 1,160%; plastics, 855%; automobile tires, 376%; mineral fertilizers, 336%; sulfuric acid, 271%.

The final paper, introduced in Russian by Valentin Aleskovskij (read in English by University of Toronto's R. R. McLaughlin) described how engineers are trained in the Technological Institute Lensovjet (Leningrad). In the last few years, said Aleskovskij, Soviet technological institutes have concentrated on turning out specialists with a wide range of knowledge. To this end, the curriculum at Lensovjet is devoted about one-half to theoretical subjects, one-third to engineering subjects and only 13.6% to specialized subjects. Most courses are given in 5 years, although certain very difficult subjects may require a 5½-year course. At the present time, said Aleskovskij, Russia has more than 750 institutes of higher learning, including 195 technical schools, with a total registration of 700,000 students.



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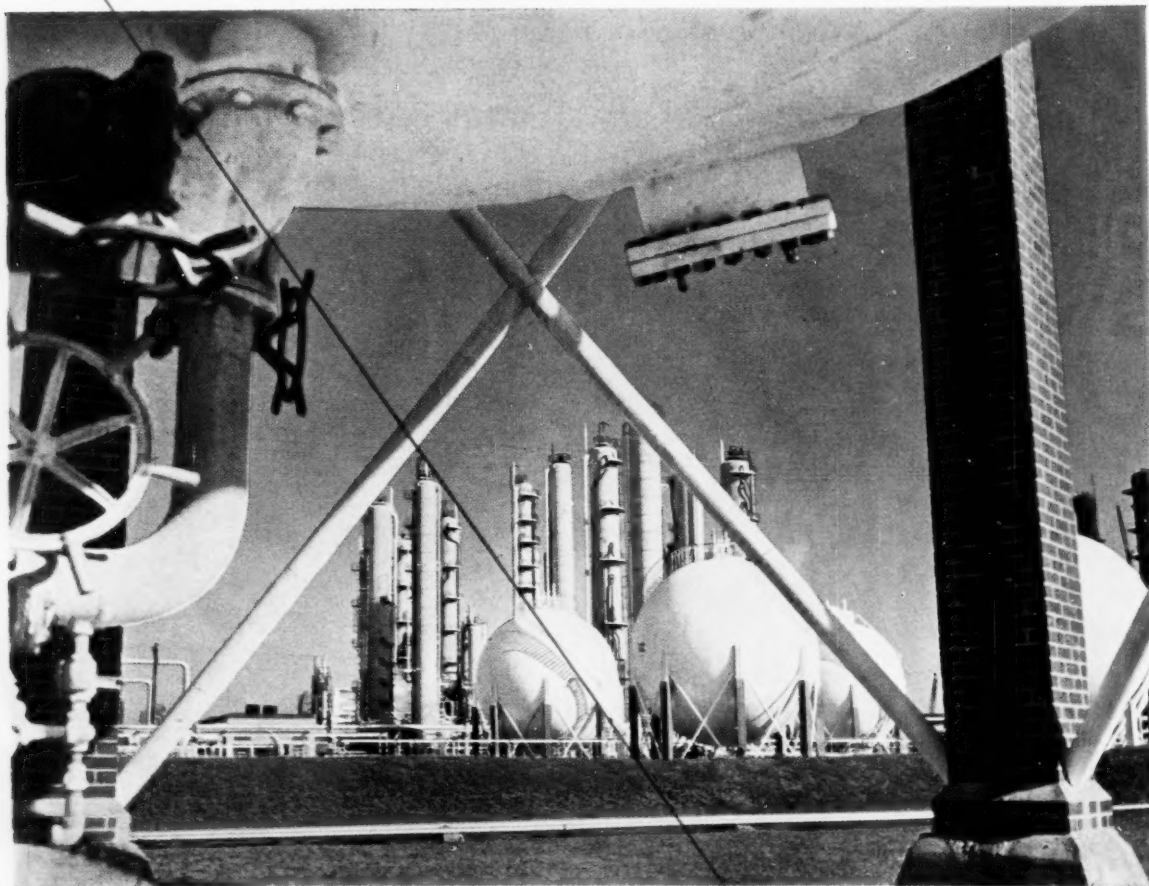
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Market Newsletter

CHEMICAL WEEK

May 3, 1958

The base price of natural polypropylene is down 9¢/lb. The surprisingly deep cut—posted this week by Hercules Powder, first U.S. commercial producer—establishes the truckload quantity tag at 56¢/lb. The base price of Pro-fax (Hercules' polypropylene tradename) in colors remains at 65¢/lb. Reason for the drop: "to reflect a more realistic price differential between natural and colored molding prices."

The hefty reduction, too, will probably broaden sales of the new thermoplastic, make it more economical for consumers who like to handle their own coloring requirements by dry-coloring or master-batch methods.

Although commercially available only a short time (*CW Market Newsletter*, Feb. 22), the product appears to be making its mark in the plastics industry. Injection-molded items already in production, says Hercules, include hospital utensils, pipe fittings, valves, refrigeration parts, automotive components, household equipment, business machine housings and parts, and women's shoe heels.

•
Buyers of muriate of potash are being tempted early with seasonally lowered prices on material for the new fertilizer year that opens July 1. But lowered schedules offered by some sellers (for July-September deliveries) may well have to be altered—possibly downward—when general contracting starts in June. It happened last year (*CW Market Newsletter*, June 22, '57) when "competitive conditions" forced a few producers to revise announced schedules to meet prices posted later by others.

And it's still a "rough market," say trade observers, chiefly because of overcapacity resulting from new potash producers moving into the field.

•
Washington is blamed this week as cause of foreign zinc's flooding the domestic market, and for being responsible for mine shutdowns and smelter curtailment in the U.S. At the end of this week, the New Jersey Zinc Co. will close down its Hanover, N.M., mine, and, on May 15, will also discontinue roasting operations at its Canon City, Colo., plant. In addition, "substantial" cutbacks in production were announced at the company's Palmerton, Pa., and Depue, Ill., smelting plants.

Says a company spokesman: "Unrestricted imports, which reached an all-time high in '57, not only have created a wholly unrealistic price level for zinc, which has persisted for a year, but also have resulted in a heavy surplus of metal on the market at a time when consumption has been declining."

Continued absence of any action by the Tariff Commission or the government to curb imports, says the company, "makes it impossible to maintain operations at the two Western properties any longer." In addi-

Market Newsletter

(Continued)

tion, the situation "forces" the company to lay off hundreds of long-service employees at its smelters.

U.S. copper production is being cut again "to bring output more in line with demand and to prevent further increase in inventory." The 20% slash (about 11,500 tons/month), will be made by Kennecott Copper's Western Mining divisions. It's the third curtailment this year, brings KCC rate of production down to about 67% that of March '57.

Affected are divisions in Utah, Nevada, New Mexico and Arizona. The "world's largest copper producer" hasn't yet decided how the latest curtailment will be applied. Under consideration: dropping shifts in mines, mills and smelters, and in the refinery at Salt Lake City; cutting operations back to a four-day work week.

Production of epoxy resins has started at Reichhold Chemical's Ballardvale, Mass., plant. Output of the Reichhold resin (tradenamed Epotuf), is expected to hit some 10 million lbs./year of liquid and solid material.

Entry into epoxies production was a natural for Reichhold, already a strong force in other synthetic resins (polyesters, alkyds and phenolics).

Battle between aluminum and steel for the "tin" can market grows more intense (*CW*, Nov. 2, '57, p. 75). Late last week United States Can Corp. began turning out aluminum cans "at prices lower than steel containers." The company is quoting \$45/thousand on the six-ounce Victor aluminum aerosol (quantities of 2 million or more), and \$50/thousand for lesser quantities. This, says Victor Muscat, the company's president, is about 2.3% lower than price of similar "tin" cans.

Further, says Muscat, the low aluminum price "contradicts the publicly voiced opinions of several other container companies that a competitively priced aluminum can was impossible to achieve at this time."

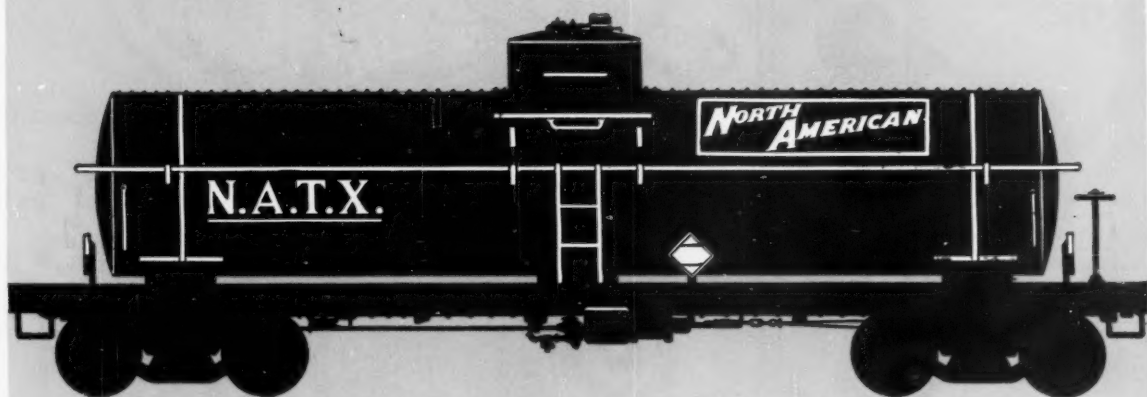
By the end of this year United States Can expects to be producing the cans at a rate of 50 million/year (using an impact-extrusion technique); "in the near future," capacity potential will be expanded to 125 million/year.

SELECTED PRICE CHANGES — WEEK ENDING APRIL 28, 1958

	Change	New Price
DOWN		
Glycerine, crude, imp., nat., soaplye, 80% c.i.f.	\$0.007	\$0.17
Platinum metal, works, oz.	2.00	65.00
Polypolypropylene, nat., truckloads	0.09	0.56
Sebacic acid, purif., dms., c.l., wks.	0.035	0.655
Sebacic CP grade, dms., c.l., wks.	0.075	0.695

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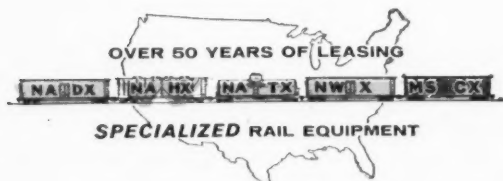


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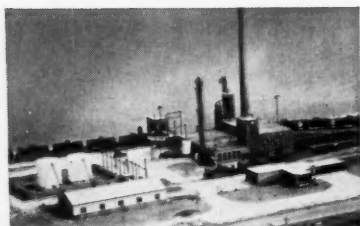
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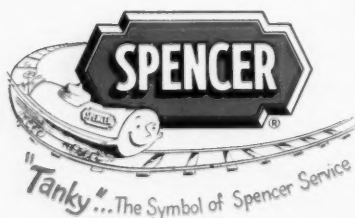
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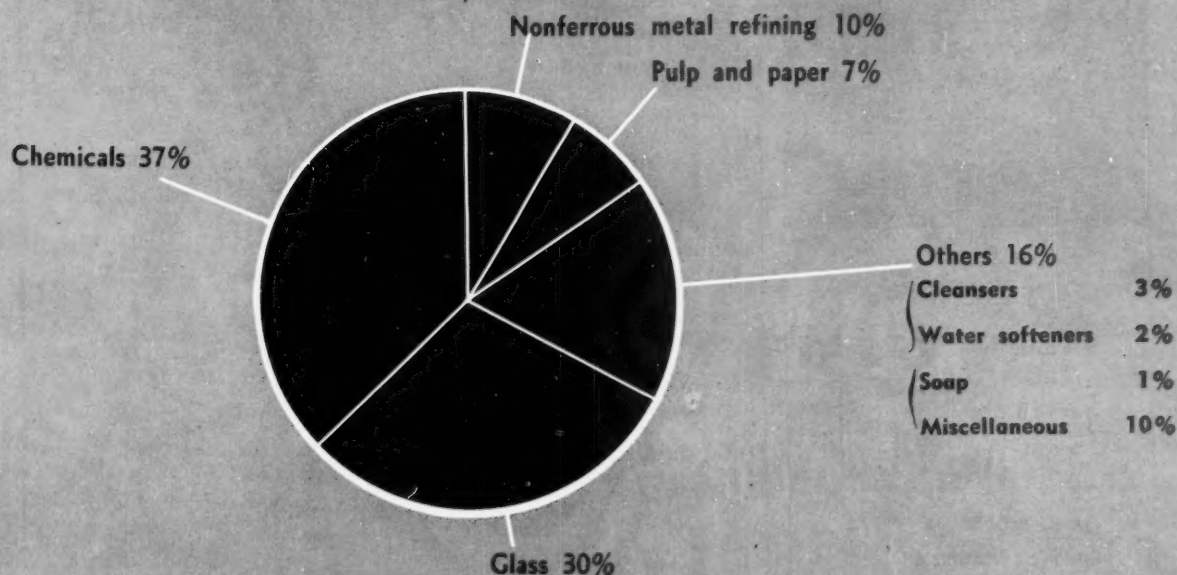
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MARKETS

U.S. Soda Ash Demand, 1958



Recession Impact: Soda Ash Demand Down

U.S. soda ash production—always a good yardstick of the nation's economic vigor—will hit a low of 5 million tons in '58. But producers this week voiced no dismay, say an expected upturn in the current recession will start output on a climb to well over the 5.65-million-tons peak of '56.

To support this optimistic outlook, major soda ash producers point to current bustling expansion activity:

- Columbia-Southern is expanding capacity of its natural soda ash plant at Bartlett, Calif., by an undisclosed but "significant" amount.
- Intermountain Chemical (owned 90% by Food Machinery and Chemical, 10% by National Distillers) increased its natural soda ash capacity to 400,000 tons/year in late '57.
- Solvay is doubling dense soda ash capacity at Baton Rouge, La., but total capacity of the plant will remain at about the present 750,000 tons a year because of a simultaneous cut-back in the production of light soda ash.
- Olin Mathieson is increasing dense soda ash capacity at Saltville, Va., but spokesmen for the firm won't

say if their plans, too, call for a cut-back in output of light soda ash.

Chemicals Take Bulk: Biggest demand for soda ash (sodium carbonate) is for production of organic and inorganic chemicals. This year, for example, some 37% of the estimated 5-million-tons output will be channeled into these uses.

Sodium tripolyphosphate ranks as one of the leading chemical consumers of soda ash. Some 600,000 tons of tripoly will be made in '58, will require almost 450,000 tons of soda ash. This is a 94% gain over the relatively small 233,000 tons of tripolyphosphate made eight years ago, which then represented an outlet for almost 175,000 tons of the sodium alkali.

The surging output of sodium tripolyphosphate is, of course, tied directly to the rapid growth of synthetic detergents because of its use as a filler in the syndets. (Output of synthetic detergents this year should nudge the 4-billion-lbs. mark; in '50, syndet production was less than 1.5 billion lbs.)

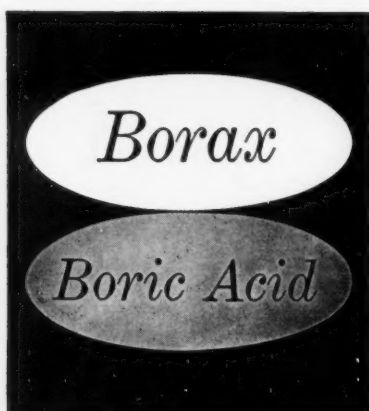
Another important, but admittedly

rapidly shrinking, outlet for soda ash is the manufacture of caustic soda by the lime-soda process. This process was the leading method of making soda ash prior to World War I. But as demand for chlorine skyrocketed, by-product caustic from electrolytic chlorine production pushed the lime-soda process into second place. This year, less than 10% of all caustic made in the U.S. will be derived by that process.

Another important chemical outlet for soda ash—also on the downgrade—is the manufacture of sodium bicarbonate. Bicarbonate output in '50 was close to 150,000 tons. In '58, less than 100,000 tons will be made.

Glass Gleam: Second most important soda ash consumer is the glass industry. This year, some 1.5 million tons—a 30% slice of total output—will be used to make glass for containers, window and plate glass, pressed and blown glass products.

Glass containers, of course, take the major portion of all glass made. Approximately 1 million tons of the carbonate will be used in making glass for the estimated 150 million gross



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MARKETS

U.S. Soda Ash Capacity, 1958

(estimated)

Company	Process	1,000 tons/year
American Potash Trona, Calif.	Natural	150
Columbia-Southern Barberton, O.	Ammonia	600
Corpus Christi, Tex.	Ammonia	240
Bartlett, Calif.	Natural	15*
Diamond Alkali Painesville, O.	Ammonia	725
Dow Freeport, Tex.	Cell Liquor	110
Intermountain Chemical Green River, Wyo.	Natural	400
Olin Mathieson Lake Charles, La.	Ammonia	365
Saltville, Va.	Ammonia	350*
Solvay Baton Rouge, La.	Ammonia	750
Detroit, Mich.	Ammonia	800
Syracuse, N.Y.	Ammonia	900
West End Chemical Westend, Calif.	Natural	185
Wyandotte Wyandotte, Mich.	Ammonia	700
South† and North Works		

*Prior to expansion.

†Stand-by, not operating.

units of glass containers needed this year. This is about 40% more than the 106 million gross units that were turned out in '50.

Despite this past growth, glass container manufacturers are increasingly concerned about inroads being made by other types of containers, e.g., polyethylene squeeze bottles. And obviously, the encroachment by newer types of containers also nettles soda ash producers.

Auto and Building Slumps: Lessened demand for plate and window glass by the recession-hit auto industry and by the slow-paced building industry have contributed considerably to a lower soda ash output.

These industries together account for the bulk of flat glass used; building takes about 75-80% of total

window glass made, the auto industry uses 70% of all plate glass produced.

Consensus now is that U.S. passenger car production in '58 will slump to a six-year low of some 4.8 million units, compared with 6.1 million units in '57.

Building construction, too, is suffering a sharp reversal. Nonprivate building construction has remained, more or less, on even keel; but construction of private homes—main prop for the building industry — has lagged noticeably. Private housing starts in March failed to show expected seasonal gains, totaled only about 75,000 units—lowest since early '49.

Nonferrous Metals: How the non-ferrous metals industries—which take some 10% of total U.S. soda alkali output—will fare during the current



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	dibutylamine	

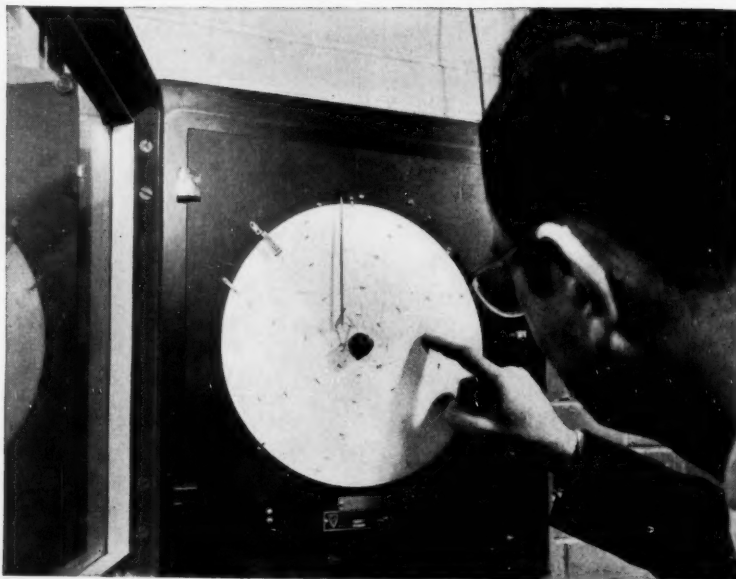
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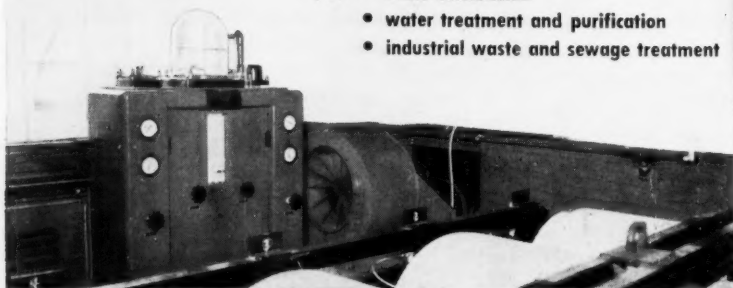


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MARKETS

recession is another source of concern to soda ash producers. Aluminum production in '58 will be significantly less than the 3.9 billion lbs. made in '57. Steel production has plummeted, and mills have been operating at less than 50% capacity since the beginning of '58. Copper and lead have been in serious oversupply and output is down.

This year, steel men estimate production will total less than 90 million tons, only 60% of the industry's total capacity. This is a three-year low, compared with the 112.7 million tons made last year (85% of capacity), 115 million tons in '56 and the high of 117 million tons in '55.

All these trends depress the soda ash market. But there are other non-ferrous applications that will tend to counterbalance, in part, the demand-cutting effects of these major slumps. One example: soda ash consumption in uranium processing looks relatively good. Atomic Energy Commission will expand uranium procurement plans—a move that, in effect, relaxes its order last year that halted the signing of new contracts until '62.

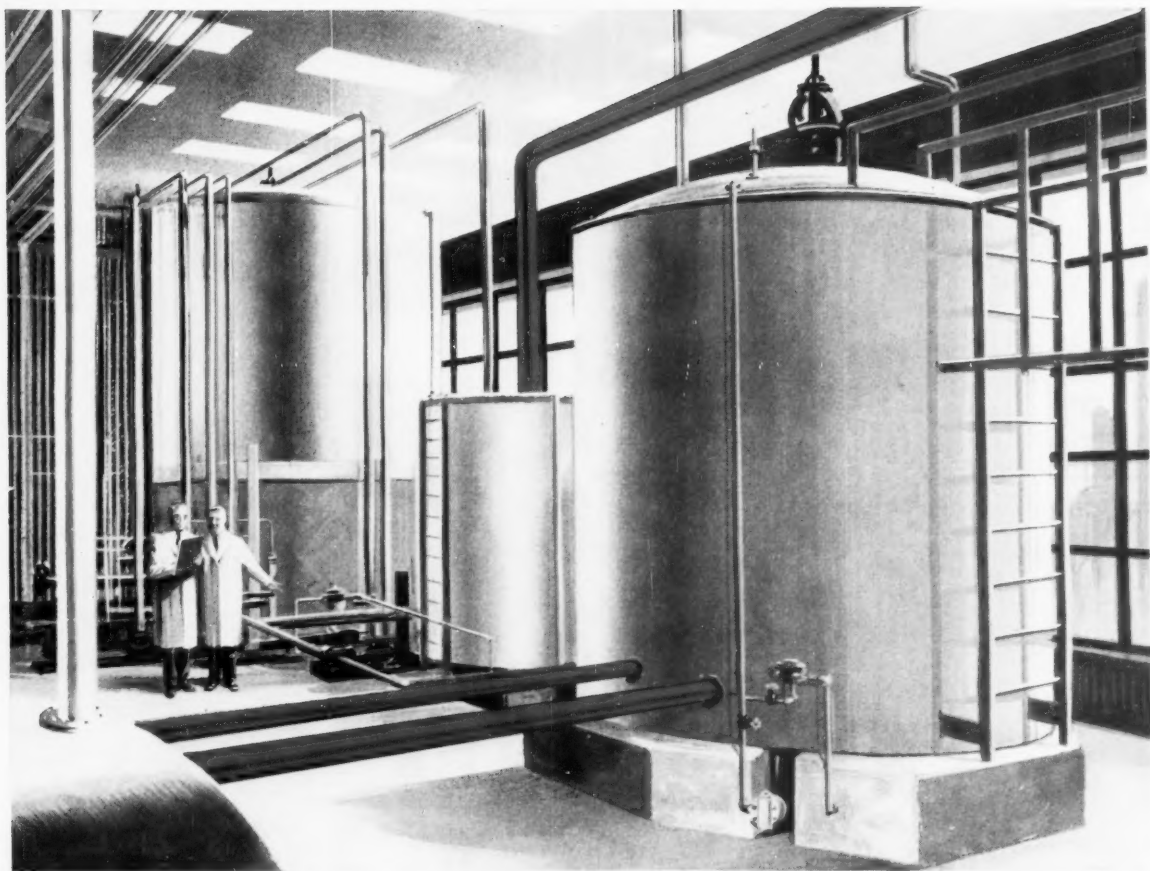
Many other industries—e.g., pulp and paper, cleansers, water softeners, soap, textiles—are using less soda ash this year. Although demand by each is relatively small, their cumulative effect is 23% of total demand.

Caustic vs. Ash: Always a cause for concern to at least some soda ash producers is the potential competition from increasingly abundant caustic soda (*CW*, Jan. 18, p. 69). Least bothered are major producers who make both products.

Both chemicals may be used for the same purposes by many industries, notably in manufacture of chemicals, soaps and cleansers, pulp and paper, and in metal processing.

Which material is used by an individual consumer within each industry depends on many factors that often counterbalance basic cost differences—in which soda ash has a decided advantage. Freight costs, ease of handling, purification costs are but a few such considerations that will affect the decision to use one or the other material. Consequently, no hard and fast rules can be made about the sharing of these common markets.

Meanwhile, the soda ash industry waits for a general upturn in the nation's business.



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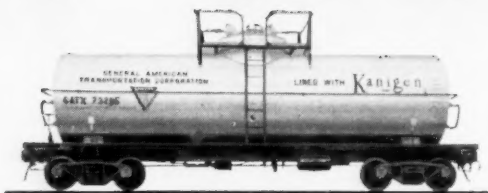
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Picking a fair where the 'lookers' don't crowd out the buyers is one problem pitchmen face.

Pushing Chemical Exports at Trade Fairs

It's world trade fair time again. And there are signs this week that U.S. chemical companies are showing greater interest in the foreign fairs than ever before.

With exports slackening and foreign competition getting rougher, several major U.S. process companies are planning to meet firms of the Iron Curtain nations on their own ground this year. At the Poznan (Poland) fair in June, at least one large U.S. producer will "step in big" with a broad line of heavy chemicals. Other firms are reportedly ready to enter their product exhibits.*

And in Moscow this August, an estimated 3 million visitors will troop through the first American trade fair inside Russia in 40 years. According to the fair's sponsor, Gottfried Neuburger, of American Abroad Associates, the Russians have earmarked \$15 million for purchases at the month-long fair. Neuburger says several large chemical producers will participate, although he is not free to

name them. (All the firms contacted by *CW* deny any part in it.)

Moving In: Allied Chemical & Dye Corp. is a good example of the CPI's kindling interest in selling at foreign fairs. To assist divisions exhibiting at trade fairs in the U.S., Allied is considering appointing an exhibit manager within its public relations department. For shows that cut across division lines, it will put on "corporate" exhibits. And Allied plans to enter foreign fairs in the next year or two directly through its International Sales Division, in liaison with the exhibit manager.

"Exhibits are becoming more and more the way to sell chemicals," Allied's William Schwarz told *CW*. Schwarz is the International Division's advertising manager. "Because of the increasing complexity of industrial chemical processes, the salesman is spending more of his time as a technical serviceman. Maybe he can make 5-10 'cold' calls a day. At a show, you may see 1,000 people in a day."

Last year, for the first time, Allied participated directly in a South Amer-

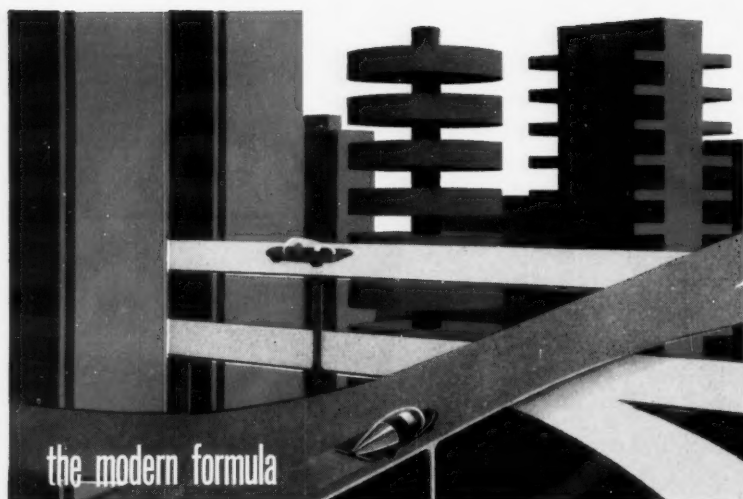
ican trade exposition. Attention-getter of its display at the agricultural show in the Dominican Republic was a steer raffle, "which drew about 50,000 people."

This year, Allied distributors will exhibit at the "Drupa" International Printing & Paper Fair in Dusseldorf, and will put on four separate displays at the International Samples Fair in Milan.

Dow is another major producer showing greater interest in the fairs this year. It's sending a man to Brussels to study programs there and bring home recommendations for participation in later fairs. Pfizer may try fairs for its line of agricultural chemicals.

Through the Middle Man: Most U.S. firms, e.g., Du Pont, participate in foreign fairs by working through local distributors. Reichhold works through affiliates. Monsanto, aside from contributing to Commerce Dept. exhibits and to the U.S. exhibit at Brussels, enters foreign fairs only by helping customers defray the cost of their booths. Chemstrand products are

*Government security regulations prohibit naming the companies at this time.



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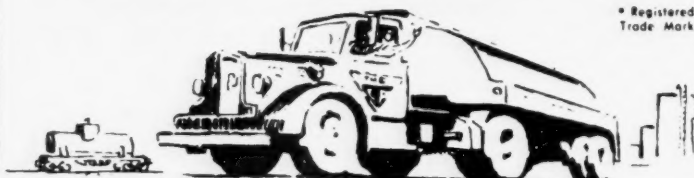


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SALES

being shown at fairs the same way.

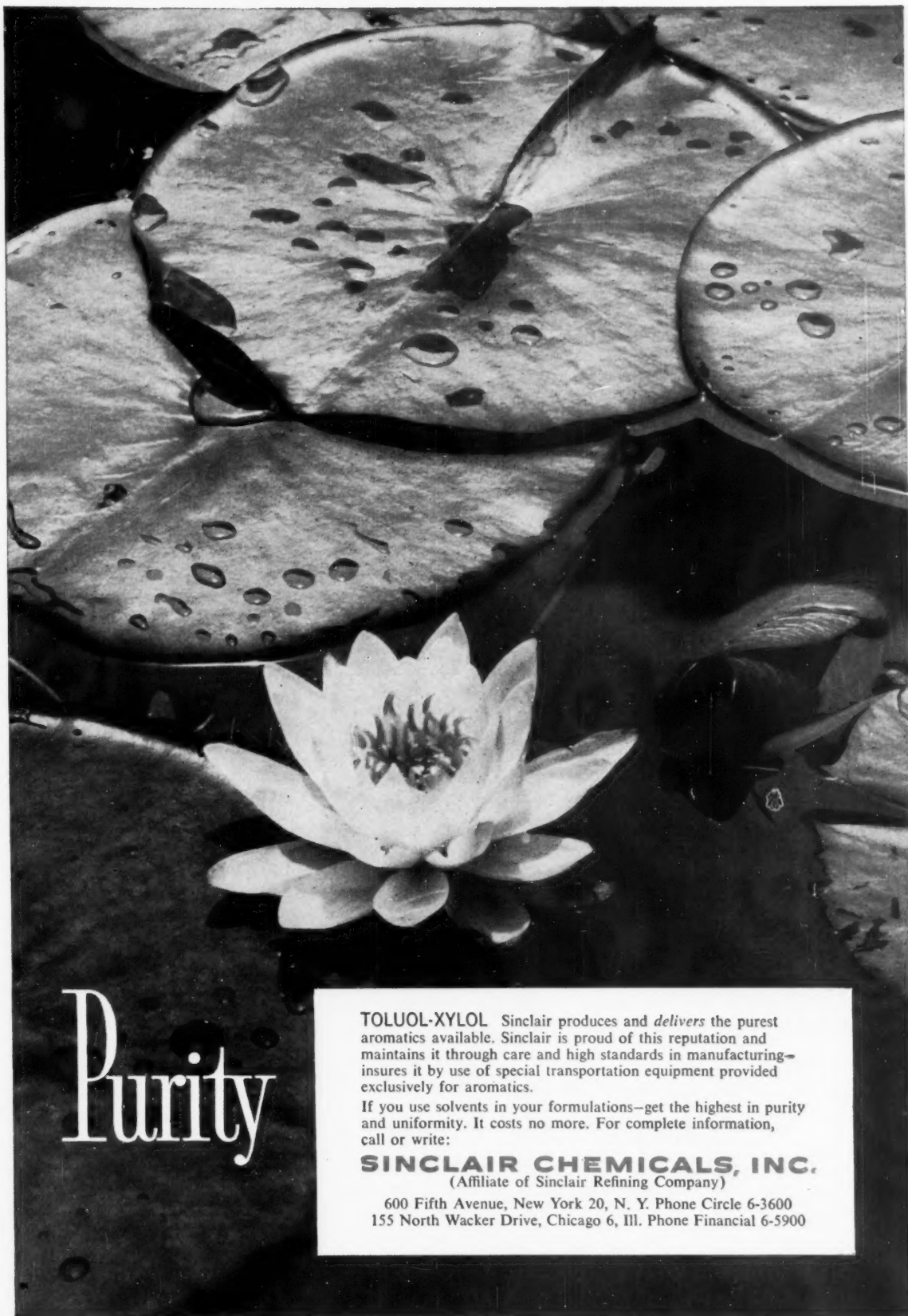
Remote Control: A firm entering a foreign fair without a local agent to handle planning and presentation faces a problem of control. And building the display in the U.S. means high labor and freight costs. Unless the display is destroyed or shipped back when it has served its purpose, the company must pay duty on it.

The big display makers offer services to get around these problems. If a manufacturer is interested in the fairs, the display maker will provide a "preshow survey," a rundown on the type of audience to expect, how many people should man the booth, how many languages they'll need, what type of brochures to prepare. A comprehensive survey may cost \$100-150/day, take one to three days. Design fees amount to about 2% of the total display budget but are refunded when construction is finished. Almost all the U.S. display firms arrange for construction, erection at the site and, in some cases, translators to man the booths.

Half-Hearted: Many U.S. process companies participate in trade fairs only through the Commerce Dept.'s trade fair program. Many have contributed products or funds to the U.S. display at Brussels (*CW*, April 26, p. 34). For most of these manufacturers, however, these are at best "institutional" or patriotic gestures. Many U.S. firms express only a limited enthusiasm about foreign shows, certainly not as much as do the foreign companies.

This week at Hanover, Germany, for example, nearly 100 chemical firms are showing their wares at the German Industries Fair. If past years' results are indicative, exhibitors will come away with a solid chunk of the \$40 million in export orders written at the fair. But of the 60 U.S. manufacturers in the entire fair, only three are in the CPI: Tracerlab Inc. (nuclear handling and measuring equipment); Minnesota Mining & Mfg. Co. (adhesive products); and Rust-Oleum (paints).

Why the lack of enthusiasm? One reason is the preponderance of buyers from mechanical, engineering or consumer fields at the fairs—they're not markets for industrial chemicals. Reichhold's experience tends to confirm this. Its greatest success has been in selling reinforced plastics, rather



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SALES

than chemicals, at the fairs. Another objection: many foreign firms hold licenses from U.S. producers, and, by pushing U.S.-made products on foreign soil, the Americans may find themselves indirectly competing with themselves. Minnesota Mining, for example, lost sales when it went into a foreign fair as a corporation. Customers sent queries directly to 3M's home office. By the time the orders were relayed back to the local distributor, the customers had made their purchases elsewhere.

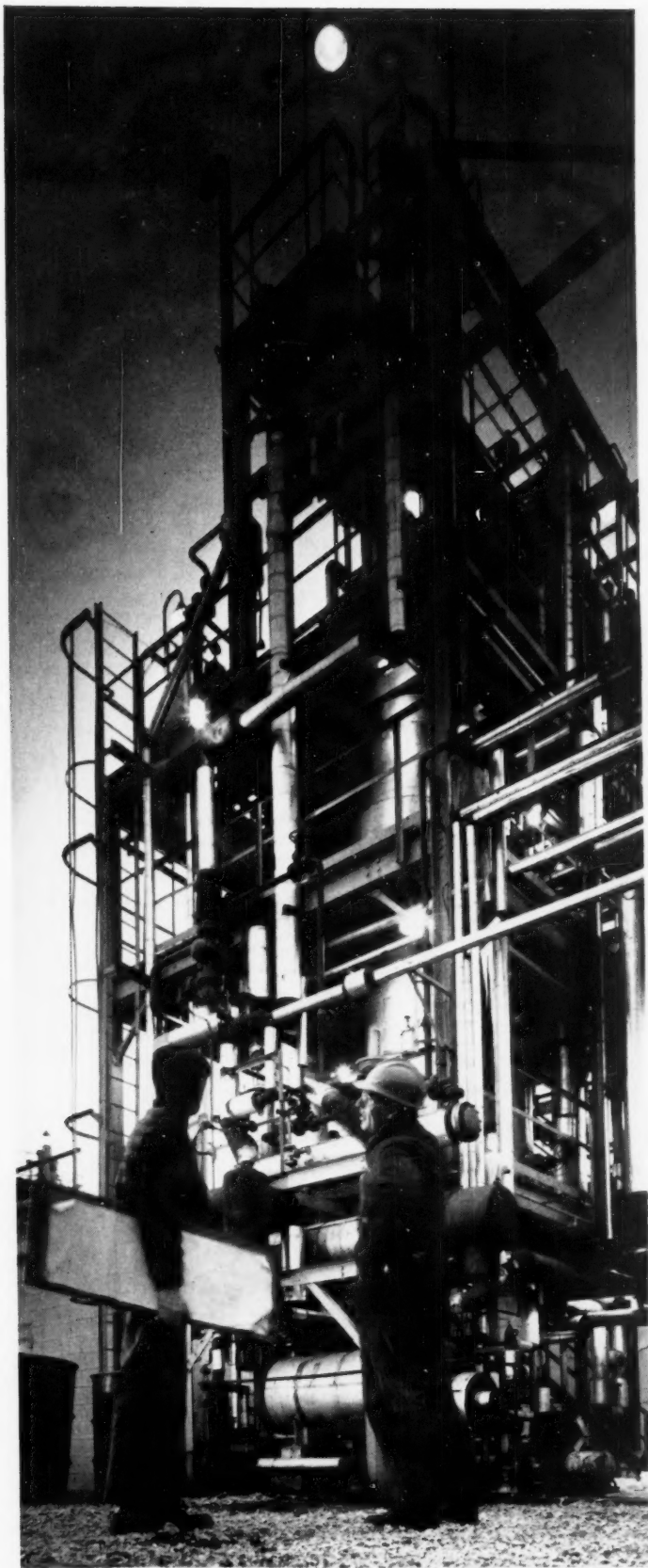
A more fundamental argument against selling chemicals at fairs is echoed by others. Arthur Moore, manager of Monsanto's Overseas Division, comments: "If anyone wants a basic chemical, all he has to do is pick up a trade journal and find the manufacturer. Unless you're selling a finished product, I see no point in the trade fairs."

Allied's Schwarz disagrees. "If you're selective," he says, "you can find a fair where your chemicals will be of interest and where you can offer something not available locally. Sometimes you run into potential applications you've never dreamed of."

'A New Phase': Understandably, display companies are strong advocates of selling through the foreign fairs. Belmont Corn, Jr., president of The Displayers, Inc. (New York), designers and builders of trade exhibits, holds that, "Fairs are a comparatively new phase of the marketing program—they're an important sales tool in Europe. American manufacturers still need a wide area of education about fairs." Corn stresses the importance of matching the fair to the product being offered and the need for show experience.

Producers, participating without proper advice, have often spent a lot of money, received little or no return. But, Corn adds, "the biggest expenses are the mistakes. Actually, the per-head (audience) cost runs about the same for foreign and domestic fairs."

The display field now holds special interest for U.S. process companies. Vying hard for steadily tightening global markets, many of them will be stepping up all phases of overseas merchandising (*CW*, March 15, p. 73). Despite the objections, the chances are strong that more companies will add foreign trade fairs to their marketing pitch.



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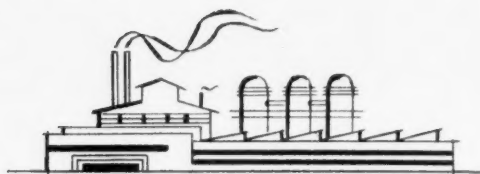
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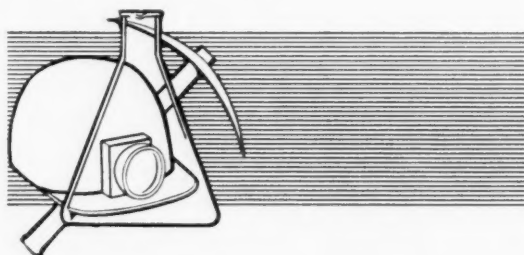
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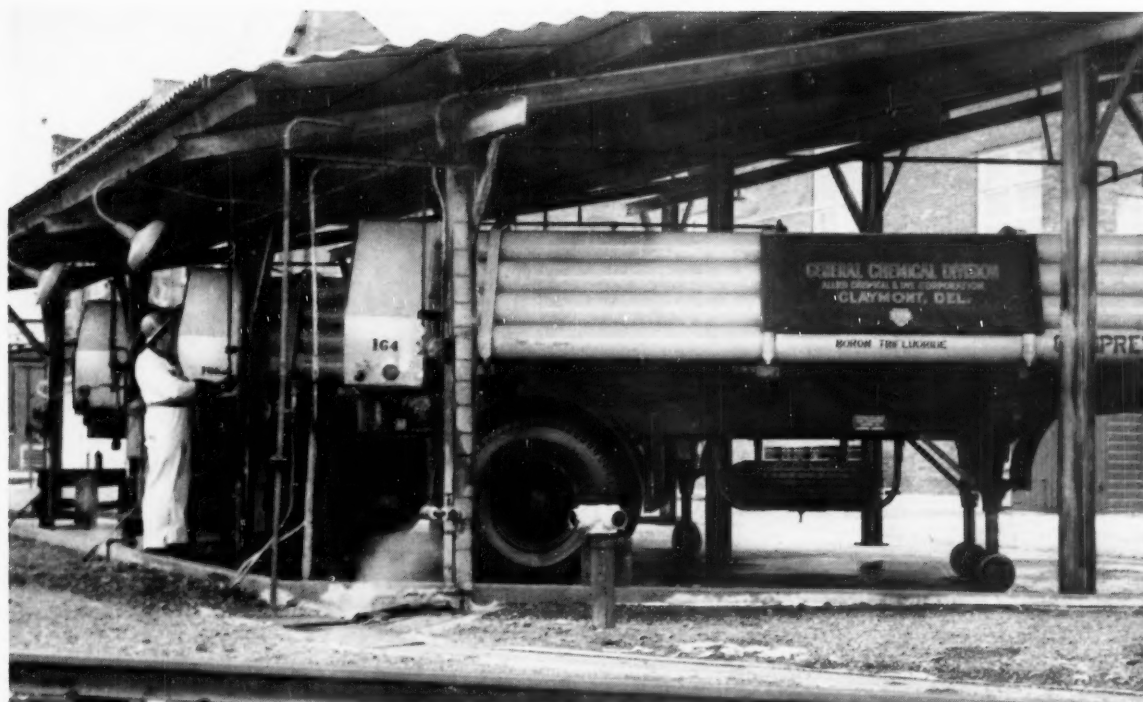
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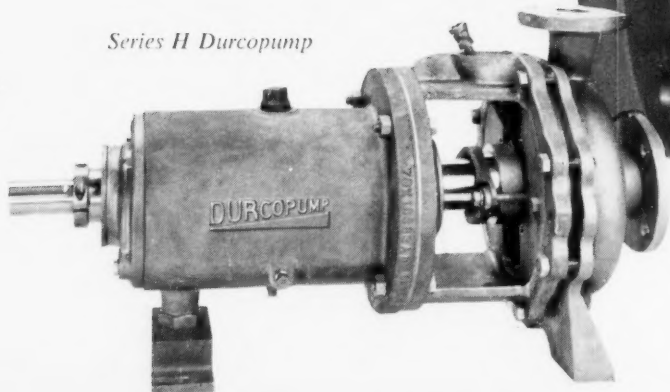
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